

## ESMO-ASCO Global Core Curriculum for Training in Medical Oncology Log Book

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#### ESMO/ASCO Task Force on Global Core Curriculum

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#### 1. Introduction

The number of patients with malignancies in the world continues to increase. It is estimated that 10 million new cases are diagnosed every year and that 2 million people are either receiving treatment or are living with their disease. The last decades have seen a rapid growth in medical technology and in the advances of fundamental knowledge of cancer cell biology with impact on genetics, screening, early diagnosis, staging, and overall treatment of cancer.

These developments have also led to a more coordinated, multidisciplinary approach to the management of the individual malignancy and the need to establish formal training based on a set of guidelines or a curriculum in the various major specialities such as surgery, radiotherapy, and medical oncology.

The foundation for the establishment of medical oncology as a speciality was created in 1965 when the American Society of Clinical Oncology (ASCO) was founded. A uniform system of training in medical oncology in the United States was formulated by the American Board of Internal Medicine in 1973. In 1997, ASCO published a training resource document for the development of a curriculum in medical oncology.

The European Society for Medical Oncology (ESMO) instituted an examination in medical oncology in 1989 for physicians actively working in the field. To guarantee maintenance and update of the knowledge, skills, and attitudes of these physicians, which is essential to the provision of excellent care, the program of continued education of medical oncology, the ESMO-Medical Oncologist's Recertification Approval program, was introduced in 1994.

The main objective of these certification systems is to improve the quality of patient treatment and care, to set standards of clinical competence for the practice of medical oncology, and to encourage a continued scholarship for professional excellence over a lifetime of practice.

In 1998, a standard program of certification and training for medical oncology was published in accordance with the requirements set by the Union Européenne des Médecins Spécialistes for the recognition of medical oncology as an independent discipline. At present, medical oncology is a recognized specialty in 25 European countries.

In other areas of the world, teaching and training programs in medical oncology have also been developed.

With the increasing internationalization of health care, exchange of specialists, and rapid flow of information across borders, it has been important to develop a set of common guidelines with a global perspective for the clinical training required for physicians to qualify as medical oncologists. Thus, a joint ESMO/ASCO Task Force

created the first Global Core Curriculum in Medical Oncology in 2003 which was simultaneously published in the Journal of Clinical Oncology and Annals of Oncology (November 2004) after being approved by the Boards of ASCO and ESMO. Since then, the Curriculum has been mailed to universities and medical oncology societies and translated into 10 different languages.

The curriculum will be reviewed regularly by the ASCO/ESMO Task Force for the Global Core Curriculum in Medical Oncology. The next review will start in the first part of 2009, and an updated version will be issued by the end of 2009.

The interest in using the global core curriculum has increased considerably since its inception, as evidenced by the translation into 10 different languages, and it is also used as a model for the development of the speciality of medical oncology in several countries around the world, e.g. Australia, Ireland, Latvia, Japan, India and Panama.

The text of the Curriculum can be found on the Web sites of ESMO, www.esmo.org, and ASCO, www.asco.org, respectively, and the present log book should be considered as a supplement to the curriculum, serving as a learning portfolio with a record of the various parts of the training program.

The competency comprising curriculum consists of three sections:

- 4.1 Basic Scientific Principles
- 4.2 Basic Principles in the Management and Treatment of Malignant Diseases
- 4.3 Management and Treatment of Individual Cancers

In addition there are chapters focusing on:

- Psychosocial Aspects of Cancer
- 6. Patient Education
- 7. Bioethics, Legal, and Economic Issues
- 8 Skills

There are three main skills, which are expected to provide the necessary knowledge for the physician to care for patients with malignancies often in cooperation with specialists from a variety of disciplines, to deliver a multidisciplinary approach providing cancer patients with the best comprehensive care.

In the log book the following definitions are applied:

A, awareness = basic notions

K, knowledge = updated concepts of patho-physiology,

emidemiology, diagnosis, prognosis, and different

therapeutic approaches

C, competence = adequate understanding and practical

integration of knowledge and skills for optimum

diagnosis and treatment of the patient at

any phase of their disease.

Curriculum = education program for trainees

Trainee = junior specialist in medical oncology, after or

in parallel with internal medicine training. A trainee  $\,$ 

could have several mentors during their education.

Mentor = confirmed medical oncologist who personally

educates, supervises, and guides a trainee

Head of = person who is responsible for medical oncology

department in the institution and guarantees the mentor's competence and the accuracy of the contents of the log book document.

Each item is divided into three tick boxes, Awareness, Knowledge, and Competence.

The log book recommendation is in grey. At the end of the training period, the mentor should fill in the box corresponding to the trainee's current assessment. A working version could be used during training. The first signature page should contain signatures by the mentor(s), and the person in charge of the training center (e.g. head of department, or equivalent) with full address and contact information as well as the signature of the trainee. The mentor specifies the section and subsections s/he supervised.

A pdf version of the log book can be downloaded from the ASCO or ESMO Web site or a printed version can be obtained by contacting either the ASCO or ESMO Head Office.

# 2. Standard Requirements for Training in Medical Oncology

The standard requirements are a total training period of 6 years, beginning with training in internal medicine for at least 2 years, followed by a training program in medical oncology for 3 to 4 years.

The 3- to 4-year training program in medical oncology must include a minimum of 2 years full-time clinical training in the diagnosis and management of a broad spectrum of neoplastic diseases.

Full-time clinical training means that at least 80% of the trainee's professional time and effort during a standard working week is dedicated to clinical activities (patient care or education). This may include the primary care of cancer patients, supervision of cancer patients on the general medical service or in designated medical oncology in-patient units, oncologic consultations and consultation rounds, oncology ambulatory care, scheduled clinical conferences, performance of procedures on patients, review of imaging, pathology, and other diagnostic materials, other direct patient care, attending national and international scientific meetings, and reading relevant literature.

Clinical activities may also include research involving patient contact, care, and treatment. Research experience for 1 or more years, including international training, is strongly recommended, especially for those oncologists seeking an academic career.

### 3. Special Requirements

#### **Program Leader**

The medical oncology program leader must be qualified to supervise and educate medical oncology trainees. Therefore, the leader must either be certified in medical oncology or possess equivalent qualifications. The leader will have a major commitment to the training program and related activities, and must be based at the primary training site of the medical oncology program.

The trainee will maintain a record of training. The program leader will countersign it, as appropriate, to confirm the satisfactory fulfilment of the required training experience and the acquisition of the competencies that are cumulated in the speciality curriculum. It will remain the property of the trainee and must be signed at the annual assessments. The assessment of the trainee will be based on the standard format of annual reviews.

#### **Faculty**

#### Faculty members

The medical oncology program faculty must include a minimum of three full-time qualified teaching faculty members, including the program leader.

All the faculty members must be certified in medical oncology or possess equivalent qualifications, and each of them must devote substantial time (at least 10 hours per week) to teaching, research, administration, and/or the critical evaluation of the performance, progress, and competence of the trainees.

#### Faculty standards

The teaching staff must demonstrate an interest in teaching, and set an example for trainees by documented engagement in the following pursuits: actively sharing medical oncology clinical practice; continuing his/her own medical education; active membership in regional, national and international scientific societies; active participation in research; and presentation and publication of scientific studies.

#### **Educational Program**

The medical oncology educational program must be organized to provide training and experience at a high enough level for the trainee to acquire the competency of a specialist in the field. The program must emphasize scholarship, self-instruction, development of critical analysis of clinical problems, and the ability to make appropriate decisions. Appropriate supervision of the trainees must be provided for the duration of their educational experience. The following principles require special emphasis:

#### Educational environment

Medical oncology training programs must provide an intellectual environment for the acquisition of knowledge, skills, clinical judgement, and attitudes essential to the practice of medical oncology. This objective can only be achieved when appropriate resources and facilities are available. Service commitments must not compromise the achievement of educational goals and objectives.

#### Professionalism—Fthics

Professionalism must be fostered during medical oncology training. In addition to mastering the comprehensive clinical and technical skills of the consultant medical oncologist, trainees are expected to maintain the values of professionalism. These values include placing the needs of one's patient ahead of one's self-interest, being responsive to the needs of society, and maintaining a commitment to scholarship and high standards of related research. Trainees, therefore, should be encouraged to join professional organizations, and participate in community programs, and institutional committees.

#### Responsibility

Lines of responsibility must be clearly delineated for the medical oncology trainees.

#### **Institutional requirements**

#### Clinical setting

The clinical setting must include opportunities to observe and manage patients with a wide variety of neoplastic diseases on both an in-patient and out-patient basis. The trainee must be given the opportunity to assume the continuing responsibility for both acute and chronically ill patients in order to learn the natural history of cancer, the extent of the effectiveness of the various therapeutic programs, and how to impart information to the patient, including bad news.

#### Hospital facilities

Modern in-patient, ambulatory care, and laboratory facilities necessary for the overall educational program must be available and functioning. Specifically, at the primary site, there must be adequate pathology services, modern diagnostic radiology services, resources for nuclear medicine imaging, blood banking and blood therapy facilities, and facilities for clinical pharmacology and tumor immunology. A general surgical service and support must be available, in addition to access to radiation therapy. The program must also include attendance at a multidisciplinary tumor conference, and clinical cancer protocol studies applied according to the guidelines of good clinical practice.

#### Update of skills and knowledge

Having obtained certification in medical oncology, the specialist is expected to update the acquired skills and knowledge by participating in Continuing Medical Education programs such as courses, symposia, or self-learning processes on a regular basis.

#### Perception of other specialities

It is also essential to have the support of oncology nursing, pharmacy, rehabilitation medicine, palliative care medicine, and dietetic and psychosocial services so that the trainee can perceive the role of other specialities involved in cancer patient care.

#### **Facilities**

It is the responsibility of the teaching institute to oversee that these facilities are available before a graduate medical education program is initiated.

The following curriculum should be considered as the educational framework for medical oncology training.

### 4. Competency Comprising Curriculum

#### 4.1. Basic Scientific Principles

ancer biology		Awa	Awareness		Knowledge		Competence	
		yes	no	yes	no	yes	no	
Biology of normal cells								
Basic processes of carcinogene	sis							
Gene structure								
Gene expression								
Gene regulation								
Cell cycle								
Cell cycle interaction with thera	ру							
Tumor cell kinetics								
Tumor cell proliferation								
Programmed cell death								
Balance between cell death and	l							
cell proliferation								
Molecular techniques								
Polymerase chain reaction								
Chromosomal analyses								
Other techniques of molecular a	ınd							
tumor cell biology								
Mentor:	Trainee:			Depart	ment / Instit	ute:		

Tumor immunology		Awa ves	reness no	Know ves	wledge no	Com ves	petence no
Cellular and humoral componen	ts	,		,		,	
of the immune system							
Regulatory action of cytokines							
on the immune system							
Inter-relationship between tumo	r						
and host immune systems							
Tumor antigenicity							
Immune-mediated antitumor cyt	totoxicity						
Direct effect of cytokines on tun	nors						
Mentor:	Trainee:			Departi	ment / Institu	ıte:	
Etiology, epidemiology, screen	ning and preven	Awa	reness		wledge		petence
<i>G37</i> 1 <i>G37</i>			reness no	<b>Kno</b> vyes	<b>wledge</b> no	<b>Com</b> yes	petence no
Etiology of genetic and environm		<b>Awa</b> yes	no	yes	no	yes	no
Etiology of genetic and environm factors in oncogenesis	nental	Awa			_		-
Etiology of genetic and environm factors in oncogenesis Epidemiologic factors and descr	nental	Awa yes	no	yes	no □	yes	no
Etiology of genetic and environm factors in oncogenesis Epidemiologic factors and descr of disease	nental	<b>Awa</b> yes	no	yes	no	yes	no
Etiology of genetic and environm factors in oncogenesis Epidemiologic factors and descr	nental	Awa yes	no	yes	no □	yes	no
Etiology of genetic and environm factors in oncogenesis Epidemiologic factors and descr of disease Basic principles of screening an	nental iptors d risk	Awa yes	no	yes	no	yes	no
Etiology of genetic and environment factors in oncogenesis Epidemiologic factors and description of disease Basic principles of screening an assessment	nental iptors d risk	Awa yes	no	yes	no .	yes	no
Etiology of genetic and environm factors in oncogenesis Epidemiologic factors and descr of disease Basic principles of screening an assessment Sensitivity and specificity of the	nental iptors d risk test	Awa yes	no	yes	no	yes	no
Etiology of genetic and environm factors in oncogenesis Epidemiologic factors and descr of disease Basic principles of screening an assessment Sensitivity and specificity of the Cost-benefit ratio	nental iptors d risk test	Awa yes	no	yes	no	yes	no
Etiology of genetic and environme factors in oncogenesis Epidemiologic factors and description of disease Basic principles of screening an assessment Sensitivity and specificity of the Cost-benefit ratio Principles and indications for ge	nental iptors d risk test	Awayes	no	yes	no	yes	no
Etiology of genetic and environme factors in oncogenesis Epidemiologic factors and description of disease Basic principles of screening an assessment Sensitivity and specificity of the Cost-benefit ratio Principles and indications for gescreening and counseling	nental iptors d risk test netic preventive	Awayes	no	yes	no	yes	no

Clinical research including sta	itistics	Awa	reness	Knowledge Compe		petence	
		yes	no	yes	no	yes	no
Clinical trial design							
Phase I trials							
Phase II trials							
Phase III trials							
Ethical issues involved in study of	lesign						
Regulatory issues involved in stu	dy design						
Legal issues involved in study de	sign						
Criteria for defining response to	therapy						
Tools used to assess quality of li	fe						
Basics of statistics (including sta	itistical methods,						
requirements for patient number	s in designing						
studies, and proper interpretation	n of data)						
Toxicity assessment and grading							
Role and functioning of the instit	utional						
review board and ethical commit	tees						
Informed consent from patients							
Government regulatory mechanis	sms						
of surveillance							
Instruction in grant writing							
Information about mechanisms of	of support						
for clinical research							
Cost of therapy and cost-effective	reness						
Instruction in preparing abstracts	S						
Instruction in preparing oral and	visual						
presentations							
Instruction in writing articles							
Critical evaluation of the scientifi	c value of						
published articles and influence	on daily						
clinical practice							
Exposure to the development and	d conduct						
of trials through international cod	operative						
groups							
Exposure to the development and	d conduct						
of in-house protocols							
Mentor:	Trainee:			Departr	ment / Institu	te:	

# **4.2.** Basic Principles in the Management and Treatment of Malignant Diseases

The management of malignant diseases requires the expertise of many different medical subspecialities. The majority of patients with malignant diseases are best managed by a multidisciplinary approach integrating the various subspecialities due to the increasing complexity of modern treatment. The trainee should recognize the contributions of each of these subspecialities in the diagnosis and disease assessment stage, and treating the underlying disease and its complications. The trainees should interact with each of these disciplines in order to gain an appreciation of the benefits and limitations of each modality.

Participation of the trainees in interdisciplinary meetings is encouraged. The trainees should be capable of assessing the patient's comorbid medical conditions, that may affect the toxicity and efficacy of treatment, in order to formulate a treatment plan and be aware of the special conditions that influence the treatment of the growing population of elderly patients with malignant disorders.

Pathology/laboratory medicine/molecular highory

		Awa	reness	Kno	wledge	Com	petence	
		yes	no	yes	no	yes	no	
Review of biopsy material and s	urgical							
specimens with a pathologist								
New pathologic techniques								
Laboratory testing								
Serum tumor markers								
Cell membrane markers								
DNA markers								
Mentor:	Trainee:			Depart	ment / Instit	uto.		
Wellor.	namee.			Бераги	ment/ mout	uic.		
Staging procedures		Awa	reness	Kno	wledge	Com	petence	
		<b>Aw</b> a	reness no	<b>Kno</b> yes	wledge no	<b>Com</b> yes	npetence no	
Tumor-node-metastasis staging	, ,		no		U		no	
Tumor-node-metastasis staging Indications for clinical procedure	es	yes	no	yes	no	yes	no	
Tumor-node-metastasis staging Indications for clinical procedure Indications for radiographic prod	es cedures	yes	no	yes	no 🗆	yes	no	
Tumor-node-metastasis staging Indications for clinical procedure	es cedures	yes	no	yes	no 🗆	yes	no	
Tumor-node-metastasis staging Indications for clinical procedure Indications for radiographic prod	es cedures	yes	no	yes	no 🗆	yes	no	
Tumor-node-metastasis staging Indications for clinical procedure Indications for radiographic prod Indications for nuclear medicine	es cedures imaging	yes	no	yes	no	yes	no	
Tumor-node-metastasis staging Indications for clinical procedure Indications for radiographic prod Indications for nuclear medicine procedures	es cedures imaging	yes	no	yes	no	yes	no	

#### **Therapy**

Surgery		Awa	reness	Knowledge Compet		petence	
		yes	no	yes	no	yes	no
Indications and contraindications	s of surgery						
Role of surgery in the staging, co	ure, and						
palliation							
Indications for organ preservation	n surgery						
Indications for sequencing of sur	gery with						
other treatment modalities							
Risks and benefits of surgery as	a definitive						
treatment and as an adjunct to r	adiotherapy						
and/or anticancer agents							
Postoperative complications							
Mentor:	Trainee:			Departr	ment / Institu	ıte:	
		_					
Radiation oncology			reness		wledge		petence
		yes	no	yes	no	yes	no
Principles of radiation biology					-		•
Principles of radiation biology Indications for radiation therapy	as a	yes	no	yes	no	yes	no
Principles of radiation biology Indications for radiation therapy curative modality		yes	no	yes	no	yes	no
Principles of radiation biology Indications for radiation therapy curative modality Indications for radiation therapy		yes	no	yes	no	yes	no 🗆
Principles of radiation biology Indications for radiation therapy curative modality Indications for radiation therapy palliative modality	as a	yes	no	yes	no	yes	no
Principles of radiation biology Indications for radiation therapy curative modality Indications for radiation therapy palliative modality Principles of treatment planning	as a	yes	no	yes	no	yes	no 🗆
Principles of radiation biology Indications for radiation therapy curative modality Indications for radiation therapy palliative modality Principles of treatment planning dosimetry	as a and	yes	no	yes	no	yes	no 🗆
Principles of radiation biology Indications for radiation therapy curative modality Indications for radiation therapy palliative modality Principles of treatment planning dosimetry Indications for sequencing of rad	as a and liation	yes	no	yes	no	yes	no
Principles of radiation biology Indications for radiation therapy curative modality Indications for radiation therapy palliative modality Principles of treatment planning dosimetry Indications for sequencing of rad therapy with surgery and/or anti	as a and liation cancer agents	yes	no	yes	no	yes	no
Principles of radiation biology Indications for radiation therapy curative modality Indications for radiation therapy palliative modality Principles of treatment planning dosimetry Indications for sequencing of rad	as a and liation cancer agents	yes	no	yes	no .	yes	no .

Anticancer agents			eness		vledge		petence
Indications and apple in primary		yes	no	yes	no	yes	no
Indications and goals in primary malignant disorders			П		П		
	<b>*</b>		Ш				
Indications and goals in recurrer malignant disorders	IL						
· ·	attina						
Usefulness in the neoadjuvant so							
Usefulness in the concomitant s							
Usefulness in the adjuvant setting Indications as a radiation sensitizer							
Indications as a radiation sensitizer							
Importance of dosing and treatm	•						
Assessment of patient's comorb	id						
medical conditions							
Pharmacokinetics							
Pharmacogenomics							
Pharmacology of the various age							
Toxicity profile of each anticance	er agent,						
including long-term hazards							
Dose and treatment schedule ad	laptation						
in case of organ dysfunction							
Mentor:	Trainee:			Departr	nent / Institu	te:	
Biologic therapy		<b>Awa</b> ı ves	reness	<b>Knov</b> yes	vledge no	Com <sub> </sub>	petence
Indications for biologic therapy (	includina	you	110	you	110	you	110
cytokines and hematopoietic gro	-						
Specific side effects and their m	,						
Combinations with chemotherap							
Monoclonal antibodies	,						
Tumor vaccines							
Cellular therapy							
Gene-directed therapy							
Mentor:							

Supportive and palliative mea	surements	Awa	reness	Knowledge Compe		petence	
		yes	no	yes	no	yes	no
Indications of supportive treatme	ents						
Limitations of supportive treatm	ents						
Side-effects of supportive treatr	nents						
Indications for palliative therapy							
nd-of-life care							
How to use in clinical practice	linical practice						
Mandana	Turing			Department / Institute:			
Mentor:	Trainee:			Departi	ment / Institi	ute:	
Supportive measures							
No. 10 and 10 an					11	•	
Nausea and vomiting			reness		wledge		petence
		yes	no	yes	no	yes	no
Etiologies of nausea and vomitin	0						
Mechanism of action and pharm	acology of						
anti-emetic agents							
e e e e e e e e e e e e e e e e e e e							
How to use anti-emetic agents i	n daily	_	_	_	_	_	_
•	n daily						
How to use anti-emetic agents i	n daily  Trainee:				ment / Institu		
How to use anti-emetic agents i clinical practice	,						
How to use anti-emetic agents i clinical practice	,						
How to use anti-emetic agents i clinical practice	,						
How to use anti-emetic agents i clinical practice  Mentor:	,			Departi	ment / Institi	ute:	
How to use anti-emetic agents i clinical practice	,	Awa	reness	Departi	ment / Institu	ute:	petence
How to use anti-emetic agents i clinical practice  Mentor:  Infections and neutropenia	Trainee:			Departi	ment / Institi	ute:	
How to use anti-emetic agents i clinical practice  Mentor:  Infections and neutropenia  Principles of diagnosis and managements in the content of the conten	Trainee:	Awa	reness	Departi	ment / Institu	ute:	petence
How to use anti-emetic agents i clinical practice  Mentor:  Infections and neutropenia  Principles of diagnosis and mana of infections and neutropenic fee	Trainee: agement	Awa yes	reness no	Departi Know yes	ment / Institu	Com	petence no
How to use anti-emetic agents i clinical practice  Mentor:  Infections and neutropenia  Principles of diagnosis and mana of infections and neutropenic fee Treatment and prevention of infections of infections of infections and descriptions.	Trainee: agement ver ections	Awa yes	reness no	Knov yes	wledge	Com yes	petence no
How to use anti-emetic agents i clinical practice  Mentor:  Infections and neutropenia  Principles of diagnosis and mana of infections and neutropenic fer Treatment and prevention of infections for hematologic grown	Trainee: agement ver ections	Awa yes	reness no	Know yes	wledge	Com yes	petence no
How to use anti-emetic agents i clinical practice  Mentor:  Infections and neutropenia  Principles of diagnosis and mana of infections and neutropenic fer Treatment and prevention of infections of infections of infections and descriptions.	Trainee: agement ver ections	Awa yes	reness no	Know yes	wledge	Com yes	petence no

Anemia		Awa	reness	Kno	wledge	Com	petence
		yes	no	yes	no	yes	no
Indications and complications of	red						
blood cell transfusions							
Preparation and administration of	of red						
blood cell transfusions							
Indications for erythropoietin							
Mentor:	Trainee:			Depart	ment / Instit	ute:	
Thrombocytopenia		Awa	reness	Kno	wledge	Com	petence
		yes	no	yes	no	yes	no
Indications for platelet transfusion							
Complications of platelet transfu							
Preparation and administration of	of platelet						
transfusions							
Mentor:	Trainee:			Depart	ment / Instit	ute:	
Marrow and peripheral-blood	progenitor cells	<b>Awa</b> yes	reness no	<b>Kno</b> v	wledge no	Com yes	petence
					-		•
Marrow and peripheral-blood  Methods for marrow and periphe progenitor cells procurement and	ral-blood	yes			-		•
Methods for marrow and periphe	ral-blood	yes	no	yes	no	yes	no
Methods for marrow and periphe progenitor cells procurement and Mentor:	ral-blood cryopreservation	yes	no	yes  Depart	no □	yes	no
Methods for marrow and periphe progenitor cells procurement and	ral-blood cryopreservation	yes   Awa	no	yes  Depart	no  ment / Instit	yes  ute:	no
Methods for marrow and periphe progenitor cells procurement and Mentor:  Organ protection	ral-blood cryopreservation	yes	no	yes  Depart	no □	yes	no
Methods for marrow and periphe progenitor cells procurement and Mentor:  Organ protection  Organ-protective measures	ral-blood cryopreservation	yes  Awayes	no	yes  Depart	no  ment / Instit  wledge no	yes  ute:  Com yes	no   petence no
Methods for marrow and periphe progenitor cells procurement and Mentor:  Organ protection  Organ-protective measures and treatments	ral-blood   cryopreservation   Trainee:	yes   Awa	no	yes  Depart	no  ment / Instit	yes  ute:	no
Methods for marrow and periphe progenitor cells procurement and Mentor:  Organ protection  Organ-protective measures and treatments Indications and side-effects of decisions.	ral-blood   cryopreservation   Trainee:	yes  Awa yes	reness no	yes  Departe  Knowyes	ment / Instit	yes ute: Com yes	no   petence no
Methods for marrow and periphe progenitor cells procurement and Mentor:  Organ protection  Organ-protective measures and treatments Indications and side-effects of dorgan-protective agents	ral-blood cryopreservation Trainee:	Awa yes	reness no	yes  Departs  Knoo yes	ment / Instit	yes  ute:  Com yes	no  petence no
Methods for marrow and periphe progenitor cells procurement and Mentor:  Organ protection  Organ-protective measures and treatments Indications and side-effects of decisions.	ral-blood cryopreservation Trainee:	yes  Awa yes	reness no	yes  Departe  Knowyes	ment / Instit	yes ute: Com yes	no   petence no
Methods for marrow and periphe progenitor cells procurement and Mentor:  Organ protection  Organ-protective measures and treatments Indications and side-effects of dorgan-protective agents	ral-blood cryopreservation Trainee:	Awa yes	reness no	yes  Depart	ment / Instit	yes ute:  Com yes	no  petence no

Mucositis		Awa yes	reness no	Kno yes	wledge no	Com yes	no no
Differences between infectious r that caused by anticancer agents					П	_	
Pain medication and topical anes							
Tail modication and topical and	5410400						
Mentor:	Trainee:			Depart	ment / Instit	ute:	
Malignant effusions		yes	reness no	yes	<b>wledge</b> no	yes	petence no
Signs, symptoms, and treatments of ascites							
Signs, symptoms, and treatments of pleural							
effusions							
Signs, symptoms, and treatment	ts of						
pericardial effusions							
Effusions treatment by paracently	nesis						
Mentor:	Trainee:			Depart	ment / Instit	ute:	
Extravasation							
Extravasation  Prevention of extravasation		Awa yes	reness no	Knowyes	wledge no	Com yes	no
		yes	no	yes	no	yes	no
Prevention of extravasation		yes	no	yes	no	yes	no
Prevention of extravasation Diagnosis of extravasation	Trainee:	yes	no	yes	no	yes	no
Prevention of extravasation Diagnosis of extravasation Treatment of extravasation	Trainee:	yes	no	yes  □  □  Depart	no	yes	no
Prevention of extravasation Diagnosis of extravasation Treatment of extravasation Mentor:		yes   Awa	no	yes  Depart	no	yes  ute:	no
Prevention of extravasation Diagnosis of extravasation Treatment of extravasation Mentor:  Oncologic emergencies	ions that require	yes   Awa	no	yes  Depart	no	yes  ute:	no
Prevention of extravasation Diagnosis of extravasation Treatment of extravasation Mentor:  Oncologic emergencies Recognition of clinical presentation	ions that require al cord	yes   Awa	no	yes  Depart	no	yes  ute:	no
Prevention of extravasation Diagnosis of extravasation Treatment of extravasation  Mentor:  Oncologic emergencies  Recognition of clinical presentati immediate intervention (eg, spin compression, pericardial tampor For patients in whom a diagnosis	ions that require al cord nade)	yes  Awa yes	no	yes  Depart	no	yes  ute:	no
Prevention of extravasation Diagnosis of extravasation Treatment of extravasation  Mentor:  Oncologic emergencies  Recognition of clinical presentati immediate intervention (eg, spin compression, pericardial tampor For patients in whom a diagnosis suspected, proper approach	ions that require al cord nade)	yes  Awa yes	reness	yes  Depart	ment / Instit	yes  ute:	no
Prevention of extravasation Diagnosis of extravasation Treatment of extravasation  Mentor:  Oncologic emergencies  Recognition of clinical presentati immediate intervention (eg, spin compression, pericardial tampor For patients in whom a diagnosis suspected, proper approach for obtaining a tissue diagnosis	ions that require al cord nade) s of cancer is	yes  Awa yes	no	yes  Depart	no	yes  ute:	no
Prevention of extravasation Diagnosis of extravasation Treatment of extravasation  Mentor:  Oncologic emergencies  Recognition of clinical presentati immediate intervention (eg, spin compression, pericardial tampor For patients in whom a diagnosis suspected, proper approach	ions that require al cord nade) s of cancer is	yes   Awa yes	reness no	yes  Depart  Knowyes	ment / Instit	yes  ute:  Com yes	no

Paraneoplastic syndromes		Awa	reness Kno		Knowledge		petence
		yes	no	yes	no	yes	no
"Remote effects" of malignancy							
Malignancies most commonly as	ssociated						
with the individual syndromes							
Management of each syndrome							
Mentor:	Trainee:			Depart	ment / Instit	ute:	
Nutritional support			reness		wledge		petence
Indications for enteral support		yes □	no	yes	no	yes	no
Indications for parenteral suppo	rt						
Complications of enteral suppor							
Complications of parenteral support							
Mentor:	Trainee:			Depart	ment / Instit	ute:	
Palliative care and en			reness				netence
		Awa	reness	Kno	wledge	Com	petence
Palliative care and en	d-of-life car		reness no				petence no
Palliative care and en Pain Assessment of location and seven	<b>d-of-life car</b> erity of pain	<b>Awa</b> yes	no	<b>Kno</b> yes	wledge no	<b>Com</b> yes	no
Palliative care and en	<b>d-of-life car</b> erity of pain ladder	Awa yes	no	Knowyes	wledge no	Comyes	no
Palliative care and en Pain Assessment of location and sew World Health Organization pain	<b>d-of-life car</b> erity of pain ladder	Awa yes	no	Knowyes	wledge no	Comyes	no
Palliative care and en Pain  Assessment of location and sew World Health Organization pain Pharmacology and toxicity of the	<b>d-of-life car</b> erity of pain ladder	Awa yes	no	Knov yes	wledge no	Com yes	no
Palliative care and en Pain  Assessment of location and sew World Health Organization pain Pharmacology and toxicity of the narcotics and other analgesics	d-of-life car erity of pain ladder e opiate	Awa yes	no	Knovyes	wledge no	Com yes	no
Palliative care and en Pain  Assessment of location and sevent of location and sevent of location and sevent of location and sevent of the location pain of location pain of location pain of location pain of location and location pain of location and location of location and sevent location of location	d-of-life car erity of pain ladder e opiate	Awa yes	no	Knovyes	wledge no	Com yes	no

Other symptoms		Awa	reness	Knowledge Compete			petence
		yes	no	yes	no	yes	no
Palliation of symptoms of respira	itory tract						
Palliation of symptoms of gastroi	intestinal tract						
Palliation of neurologic symptom	S						
Cutaneous and mucosal sympton	ms						
Anorexia and cachexia							
Dehydration							
How to handle end-of-life symptom	oms						
Mentor:	Trainee:			Department / Institute:			
Communication		Awa	reness	Knov	wledge	Com	petence
		yes	no	yes	no	yes	no
Communication with the patient	and family						
Break bad news							
Act in difficult situations							
Communication and work with o	ther health care						
professionals (eg, nurses, social	workers,						
psychologists)							
Mentor:	Trainee:			Donarte	ment / Institu	ıto.	
Mentor.	namee.			Бераги	nent/insuu	ute.	
Rehabilitation		Awa	reness	Knov	wledge	Com	petence
		yes	no	yes	no	yes	no
Role of physical therapy, particul	larly						
in the postoperative setting							
Role of occupational therapy							
Role of speech therapy							
Role of swallowing therapy							
Mentor:	Trainee:			Donort	mont / Inctit	ıto.	
Michilot.	namee.			рерап	ment / Institi	ute.	

#### **Management and Treatment of Individual Cancers**

For each specific disease, the trainee should know the epidemiology, pathophysiology, genetics, signs and symptoms, diagnostic work-up, treatment, and follow-up. The trainee should be able to communicate and discuss these topics with the patients.

Head and neck cance	rs						
		Awa	reness	Kno	wledge	Com	petence
		yes	no	yes	no	yes	no
Head and neck examination							
Risk factors for head and neck of							
Natural histories of the individua	l primary						
tumor sites							
Staging of head and neck cance	rs						
Panendoscopy							
Surgery and/or radiation therapy	as as						
definitive treatment							
Role of chemotherapy							
Role of palliation in advanced dis	sease						
Organ preservation							
Long-term management of patie	nts						
Risks of second malignancies							
Mentor:	Trainee:			Departi	ment / Instit	ute:	
	Į.						
Lung cancer and mes		yes	reness no	yes	wledge no	yes	petence no
Risk factors for developing lung	cancer	yes	no	yes	no	yes	no
	cancer	yes	no	yes	no	yes	no
Risk factors for developing lung	cancer	yes	no	yes	no	yes	no
Risk factors for developing lung Risk factors for developing meso	cancer othelioma	yes	no	yes  Departe	no	yes	no
Risk factors for developing lung Risk factors for developing meso  Mentor:  Small-cell lung cancer  Multimodality approach to limite	cancer othelioma  Trainee:  d-stage	yes	no	yes  Departi	no  ment / Institu	yes  ute:	no
Risk factors for developing lung Risk factors for developing meso Mentor:  Small-cell lung cancer	cancer othelioma  Trainee:  d-stage	yes  Awa yes	no  reness no	yes  Departs  Know yes	no  ment / Institu	yes  ute:  Com yes	no  petence  no
Risk factors for developing lung Risk factors for developing meso  Mentor:  Small-cell lung cancer  Multimodality approach to limite	cancer othelioma  Trainee:  d-stage	yes  Awa yes	no  reness no	yes  Departs  Know yes	no  ment / Institu	yes  ute:  Com yes	no  petence  no
Risk factors for developing lung Risk factors for developing meso  Mentor:  Small-cell lung cancer  Multimodality approach to limite Role of chemotherapy in patients	cancer othelioma  Trainee:  d-stage s with	yes  Awa yes	reness	yes  Departr  Know yes	no  ment / Institu	yes  ute:	no

Non-small-cell lung cancer		Awa yes	reness no	Knov yes	wledge no	Com yes	petence no
Criteria of inoperability							
Surgical and nonsurgical staging	g of patients						
with localized disease							
Value of surgery in localized dise	ease						
Value of chemotherapy in localiz	ed disease						
Value of radiation therapy in loca							
disease							
Combined modality treatment in	localized						
disease							
Role of chemotherapy in the pall	liation						
of advanced disease							
Role of radiation therapy in the p	alliation						
of advanced disease							
Mentor:	Trainee:			Donartr	nent / Institu	ıto:	
Wentor.	Hamee.			Departi	Henr / Insult	ile.	
Mesothelioma		Δwa	reness	Knov	wledge	Com	petence
oootiioiiiu		ves	no	ves	no	ves	no
Risk factors for mesothelioma		,		,		,	
Risk factors for mesothelioma Criteria for operability							_
Criteria for operability		,		,		,	
Criteria for operability Value of chemotherapy							
Criteria for operability	Trainee:						
Criteria for operability Value of chemotherapy	Trainee:						
Criteria for operability Value of chemotherapy	Trainee:						
Criteria for operability Value of chemotherapy  Mentor:	, manus						
Criteria for operability Value of chemotherapy	, manus						
Criteria for operability Value of chemotherapy  Mentor:  Gastrointestinal canc	, manus			□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	nent / Institu	ute:	
Criteria for operability Value of chemotherapy  Mentor:	, manus	Awa	reness	Departr	ment / Institu	tte:	petence
Criteria for operability Value of chemotherapy  Mentor:  Gastrointestinal cance  Esophageal cancer	ers	Awa	reness	Departr  Know yes	ment / Institu	com yes	petence
Criteria for operability Value of chemotherapy  Mentor:  Gastrointestinal cance  Esophageal cancer  Risk factors for esophageal cancer	ers	Awa	reness	Departr  Know yes	ment / Institu	com yes	petence no
Criteria for operability Value of chemotherapy  Mentor:  Gastrointestinal cance  Esophageal cancer  Risk factors for esophageal cancellidications for endoscopy in diagrams.	cer gnosis	Awa	reness	Departr  Know yes	ment / Institu	Com yes	petence no
Criteria for operability Value of chemotherapy  Mentor:  Gastrointestinal cance  Esophageal cancer  Risk factors for esophageal cancel Indications for endoscopy in diagonal Indications for endoscopy in statements.	cer gnosis ging	Awayes	reness	Departr  Know yes	ment / Institu	Com yes	petence
Criteria for operability Value of chemotherapy  Mentor:  Gastrointestinal cance  Esophageal cancer  Risk factors for esophageal cance Indications for endoscopy in dial Indications for nutritional support	cer gnosis ging	Awa	reness	Departr  Knowyes	ment / Institu	Com yes	petence
Criteria for operability Value of chemotherapy  Mentor:  Gastrointestinal cance  Esophageal cancer  Risk factors for esophageal cance Indications for endoscopy in dial Indications for endoscopy in state Indications for nutritional support Combined modality therapy	cer gnosis ging	Awayes	reness	Departr  Know yes	ment / Institu	Com yes	petence
Criteria for operability Value of chemotherapy  Mentor:  Gastrointestinal cance  Esophageal cancer  Risk factors for esophageal cance Indications for endoscopy in state Indications for nutritional support Combined modality therapy Role of palliative chemotherapy	cer gnosis ging	Awayes	reness	Departr  Knov yes	ment / Institu	Com yes	petence
Criteria for operability Value of chemotherapy  Mentor:  Gastrointestinal cance  Esophageal cancer  Risk factors for esophageal cance Indications for endoscopy in dial Indications for endoscopy in state Indications for nutritional support Combined modality therapy	cer gnosis ging	Awayes	reness	Departr  Know yes	ment / Institu	Com yes	petence

Gastric cancer		Awa	reness	Knov	wledge	Com	petence
		yes	no	yes	no	yes	no
Risk factors for gastric cancer							
Role of surgery							
Role of combined modality thera	ру						
Role of palliative chemotherapy							
Supportive measures							
Mentor:	Trainee:			Departi	ment / Institu	ite:	
Colon cancer		Awa ves	reness no	Knov ves	wledge no	Com ves	petence no
Surgical staging		усо □		усо □		усо □	
Indications for adjuvant therapie	s in colon						
cancer	0 111 001011						
Indications for adjuvant therapie	s in rectal	_	_				_
cancers	o o o ta.						
Role of chemotherapy in advanc	ed						
metastatic disease							
Heritable types of colon cancer a	nd the differences						
in their patterns of spread and m	nanagement						
Risk factors							
Screening for colorectal cancer							
Chemoprevention							
Genetic testing							
Mentor:	Trainee:			Departr	ment / Institu	ıte:	
Anal cancer		Awa	reness	Knov	wledge	Com	petence
		yes	no	yes	no	yes	no
Association with human papillon							
Role of combined modality thera	py in						
organ preservation							
Mentor:	Trainee:			Departr	ment / Institu	ite:	

Epidemiology							
Risk factors for hepatobiliary car	ncers						
Alpha-fetoprotein in diagnosis,							
response assessment, and scree	•						
indications of surgery in localize							
Role of systemic and intra-arteri	al						
chemotherapy							
Mentor:	Trainee:			Depart	ment / Instit	tute:	
Pancreatic cancer			reness		wledge		petence
Risk factors		yes	no	yes	no	yes	no
Genetic aspects							
Roles of endoscopy							
Role of molecular diagnosis							
Curative and palliative role of su	rgery						
Palliative role of chemotherapy in	n						
advanced disease							
				,		tuto	
Mentor:	Trainee:			Depart	ment / Instit	iule.	
Mentor:  Genitourinary cancer				Depart	ment / Instit	lute.	
		Awa	reness	<u> </u>	ment / Instit		petence
<b>Genitourinary cancer</b> Renal cell cancer		<b>Awa</b> yes	reness no	<u> </u>			petence no
Genitourinary cancer Renal cell cancer Diagnostic aspects				Kno	wledge	Com	-
Genitourinary cancer Renal cell cancer Diagnostic aspects Paraneoplastic aspects	s	yes	no	Kno yes	<b>wledge</b> no	<b>Com</b> yes	no
Genitourinary cancer Renal cell cancer Diagnostic aspects Paraneoplastic aspects Curative role of surgery in localiz	s zed disease	yes	no	Kno yes	wledge no □	Com yes	no
Genitourinary cancer Renal cell cancer Diagnostic aspects Paraneoplastic aspects	s zed disease	yes	no	Kno yes	wledge no	Comyes	no
Genitourinary cancer Renal cell cancer Diagnostic aspects Paraneoplastic aspects Curative role of surgery in localiz	s zed disease	yes	no	Kno yes	wledge no	Com yes	no

Knowledge

yes no

Awareness yes no Competence

yes no

**Hepatobiliary cancers** 

Urothelial cancers		Awa yes	reness no	<b>Kno</b> vyes	wledge no	Com yes	petence no
Risk factors							
Differences between localized a	nd						
invasive disease							
Propensity for transitional-cell corecurrence	arcinoma						
Role of urine cytology in staging							
and follow-up							
Role of cystoscopy in staging and follow-up							
Role of intravesical therapy in th	e						
management of superficial blade	der cancer						
Role of surgery in early-stage in	vasive						
cancers							
Combined modality therapy							
Management of metastatic transcarcinoma	sitional-cell						
Mandan	Tonion			D			
Mentor:	Trainee:			рераги	ment / Instit	ute:	
Penile cancer		Awa	reness	Kno	wledge	Com	petence
		yes	no	yes	no	yes	no
Role of human papilloma virus ir	the						
etiology of penile cancers							
Role of combined modality treat	ment						
Mentor:	Trainee:			Denarti	ment / Instit	ııto.	
Worker.	numbe.			υυραιτι	mont/ motiti	uio.	

Prostate cancer		Awa	reness	Knov	wledge	Com	petence
		yes	no	yes	no	yes	no
Epidemiology							
Screening of prostate cancer							
Indications for prostate-specific	antigen						
in screening and follow-up							
Importance of histologic grading							
Role of observation in the mana	gement of						
early stage disease							
Role of surgery in the managem	ent of						
early stage disease							
Role of radiation therapy in the i	management						
of early stage disease							
Application of hormone therapy	in						
advanced disease							
Application of chemotherapy in	advanced						
disease							
Mentor:	Trainee:			Departi	nent / Institu	rte:	
Mentor:	Trainee:			Departi	nent / Institu	rte:	
Mentor:	Trainee:			Departi	ment / Institu	rte:	
Mentor:	Trainee:			Departi	ment / Institu	te:	
Mentor:  Germ cell tumors	Trainee:	Awa	reness	· 	nent / Institu		petence
Germ cell tumors		<b>Awa</b> yes	reness no	· 			petence no
Germ cell tumors International Germ Cell Collabor				Know	wledge	Com	•
Germ cell tumors International Germ Cell Collabor Group Classification				Know	wledge	Com	•
Germ cell tumors International Germ Cell Collabor Group Classification Utility of tumor markers in	ative	yes	no	<b>Kno</b> vyes	<b>vledge</b> no	<b>Com</b> yes	no
Germ cell tumors  International Germ Cell Collabor Group Classification Utility of tumor markers in diagnosis, prognosis, and follow	ative	yes	no	<b>Kno</b> vyes	<b>vledge</b> no	<b>Com</b> yes	no
Germ cell tumors  International Germ Cell Collabor Group Classification Utility of tumor markers in diagnosis, prognosis, and follow Role of surgery	ative	yes	no	Know yes	wledge no	Com yes	no
Germ cell tumors  International Germ Cell Collabor Group Classification Utility of tumor markers in diagnosis, prognosis, and follow Role of surgery Role of radiotherapy	ative	yes	no	Knov yes	wledge no	Com yes	no
Germ cell tumors  International Germ Cell Collabor Group Classification Utility of tumor markers in diagnosis, prognosis, and follow Role of surgery Role of radiotherapy Role of chemotherapy	ative r-up	yes	no	Know yes	wledge no	Com yes	no
Germ cell tumors  International Germ Cell Collabor Group Classification Utility of tumor markers in diagnosis, prognosis, and follow Role of surgery Role of radiotherapy	ative r-up	yes	no	Know yes	wledge no	Com yes	no
Germ cell tumors  International Germ Cell Collabor Group Classification Utility of tumor markers in diagnosis, prognosis, and follow Role of surgery Role of radiotherapy Role of chemotherapy Combination chemotherapy in a	ative r-up dvanced disease	yes	no	Knov	wledge no	Comyes	no
Germ cell tumors  International Germ Cell Collabor Group Classification Utility of tumor markers in diagnosis, prognosis, and follow Role of surgery Role of radiotherapy Role of chemotherapy	ative r-up	yes	no	Knov	wledge no	Comyes	no

#### **Gynecologic Malignancies**

Ovarian cancer		<b>Awa</b> yes	reness no	Knov yes	<b>vledge</b> no	Com yes	petence no
Heritable predisposition of ovaria	an cancer						
Role of surgical procedures in							
initial staging							
Role of surgical procedures in							
initial treatment							
Role of surgical procedures in							
subsequent systemic treatment							
Indications for chemotherapy in		_	_	_	_	_	_
localized disease							
Indications for chemotherapy in advanced disease							
auvanceu uisease							
Mentor:	Trainee:			Departr	ment / Institu	te:	
Uterine cancer		Awa yes	reness no	Knov yes	<b>wledge</b> no	Com yes	petence no
Uterine cancer  Role of hormones and hormonal	therapies				-		-
					-		-
Role of hormones and hormonal	ncers	yes	no	yes	no	yes	no
Role of hormones and hormonal in the etiology of endometrial ca Curative role of surgery in early- disease	ncers stage	yes	no	yes	no	yes	no
Role of hormones and hormonal in the etiology of endometrial ca Curative role of surgery in early- disease Radiation therapy in the multidis	ncers stage	yes	no	yes	no 🗆	yes	no 🗆
Role of hormones and hormonal in the etiology of endometrial ca Curative role of surgery in early- disease Radiation therapy in the multidis approach of advanced disease	ncers stage ciplinary	yes	no	yes	no 🗆	yes	no 🗆
Role of hormones and hormonal in the etiology of endometrial ca Curative role of surgery in early- disease Radiation therapy in the multidis approach of advanced disease Role of chemotherapy in the mai	ncers stage ciplinary	yes	no	yes	no	yes	no
Role of hormones and hormonal in the etiology of endometrial ca Curative role of surgery in early-disease Radiation therapy in the multidis approach of advanced disease Role of chemotherapy in the mai of local disease	ncers stage ciplinary nagement	yes	no	yes	no .	yes	no
Role of hormones and hormonal in the etiology of endometrial ca Curative role of surgery in early-disease Radiation therapy in the multidis approach of advanced disease Role of chemotherapy in the mai of local disease Role of chemotherapy in the mai	ncers stage ciplinary nagement	yes	no	yes	no	yes	no
Role of hormones and hormonal in the etiology of endometrial ca Curative role of surgery in early-disease Radiation therapy in the multidis approach of advanced disease Role of chemotherapy in the mai of local disease Role of chemotherapy in the mai of metastatic disease	ncers stage ciplinary nagement	yes	no	yes	no	yes	no
Role of hormones and hormonal in the etiology of endometrial ca Curative role of surgery in early-disease Radiation therapy in the multidis approach of advanced disease Role of chemotherapy in the mai of local disease Role of chemotherapy in the mai of metastatic disease Role of hormone therapy in the r	ncers stage ciplinary nagement	yes	no	yes	no	yes	no
Role of hormones and hormonal in the etiology of endometrial ca Curative role of surgery in early-disease Radiation therapy in the multidis approach of advanced disease Role of chemotherapy in the mai of local disease Role of chemotherapy in the mai of metastatic disease Role of hormone therapy in the rof local disease	ncers stage ciplinary nagement nagement management	yes	no	yes	no	yes	no
Role of hormones and hormonal in the etiology of endometrial ca Curative role of surgery in early-disease Radiation therapy in the multidis approach of advanced disease Role of chemotherapy in the mai of local disease Role of chemotherapy in the mai of metastatic disease Role of hormone therapy in the role of local disease Role of hormone therapy in the role local disease Role of hormone therapy in the role of local disease	ncers stage ciplinary nagement nagement management	yes	no	yes	no	yes	no
Role of hormones and hormonal in the etiology of endometrial ca Curative role of surgery in early-disease Radiation therapy in the multidis approach of advanced disease Role of chemotherapy in the mai of local disease Role of chemotherapy in the mai of metastatic disease Role of hormone therapy in the rof local disease	ncers stage ciplinary nagement nagement management	yes	no	yes	no	yes	no

Cervical cancer		Awa yes	reness no	Knov yes	wledge no	Com yes	petence no
Risk factors for cervical cancer							
Staging as the basis for selecting	g surgery						
Staging as the basis for radiation							
Role of chemotherapy in the mai							
of local disease combined with r	-						
Role of chemotherapy in the trea							
advanced disease							
Mentor:	Trainee:			Departi	nent / Institu	ite:	
Vulvar and vaginal cancers		Awa	reness	Knov	wledge	Com	petence
		yes	no	yes	no	yes	no
Induction of clear-cell carcinoma	-						
in women whose mothers receiv							
diethylstilbestrol during pregnan	су						
Surveillance							
Management							
Curative role of surgery in early-	-						
Combination therapy in advance	d disease						
Mentor:	Trainee:			Departi	ment / Institu	ite:	
Mentor:	Trainee:			Departi	ment / Institu	ite:	
Mentor:	Trainee:			Departi	ment / Institu	ite:	
Mentor:  Breast cancer	Trainee:			Departi	nent / Institu	rte:	
	Trainee:	Awa	reness		nent / Institu		petence
	Trainee:	<b>Awa</b> yes	reness no				petence no
Breast cancer Interpretation of a mammogram				Knov	wledge	Com	•
Breast cancer		yes	no	<b>Kno</b> v yes	wledge no	Com yes	no
Breast cancer Interpretation of a mammogram	e breast	yes	no	Know yes	wledge no	Com yes	no
Breast cancer Interpretation of a mammogram Interpretation of ultrasound of the	e breast	yes	no	Know yes	wledge no	Com yes	no
Breast cancer Interpretation of a mammogram Interpretation of ultrasound of th Interpretation of magnetic reson	ne breast ance	yes	no	Know yes	wledge no	Com yes	no 🗆
Breast cancer  Interpretation of a mammogram Interpretation of ultrasound of th Interpretation of magnetic reson imaging scan of the breast	ne breast ance	yes	no	Know yes	wledge no	Com yes	no
Interpretation of a mammogram Interpretation of ultrasound of th Interpretation of magnetic reson imaging scan of the breast Pathologic and prognostic featur	ne breast ance res rimary treatments,	yes	no	Know yes	wledge no	Com yes	no
Interpretation of a mammogram Interpretation of ultrasound of th Interpretation of magnetic reson imaging scan of the breast Pathologic and prognostic featur Issues that affect the choice of pr	ne breast ance res rimary treatments, tion of receptors	yes	no	Know yes	wledge no	Com yes	no
Interpretation of a mammogram Interpretation of ultrasound of the Interpretation of magnetic reson imaging scan of the breast Pathologic and prognostic featur Issues that affect the choice of princluding the value of determination.	ne breast ance res rimary treatments, tion of receptors sease	yes	no	Know yes	wledge no	Com yes	no
Interpretation of a mammogram Interpretation of ultrasound of th Interpretation of magnetic reson imaging scan of the breast Pathologic and prognostic featur Issues that affect the choice of pr including the value of determinar Hormone therapy in advanced di	ne breast ance res rimary treatments, tion of receptors sease	yes	no	Knov yes	wledge no	Comyes	no
Interpretation of a mammogram Interpretation of ultrasound of th Interpretation of magnetic reson imaging scan of the breast Pathologic and prognostic featur Issues that affect the choice of pr including the value of determinat Hormone therapy in advanced disc	ne breast ance res rimary treatments, tion of receptors sease ase	yes	no	Knov yes	wledge no	Com yes	no
Interpretation of a mammogram Interpretation of ultrasound of th Interpretation of magnetic reson imaging scan of the breast Pathologic and prognostic featur Issues that affect the choice of pr including the value of determinat Hormone therapy in advanced disc. Indications for adjuvant therapy	e breast ance res rimary treatments, tion of receptors sease ase	yes	no 	Knov yes	wledge no	Com yes	no
Interpretation of a mammogram Interpretation of ultrasound of the Interpretation of magnetic reson imaging scan of the breast Pathologic and prognostic feature Issues that affect the choice of princluding the value of determination of the therapy in advanced discontinuous therapy in advanced discontinuous for adjuvant therapy Role of elective chemotherapy resonance.	ne breast ance res rimary treatments, tion of receptors sease ase egimens the role	yes	no 	Knov yes	wledge no	Com yes	no

#### **Sarcomas**

Bone sarcomas		Awa	reness	Knov	wledge	Com	petence
		yes	no	yes	no	yes	no
Predisposing situation and cond	ition in the						
development of primary bone sa	rcomas						
Pathologic spectrum							
Indications for limb preservation	n and						
adjuvant chemotherapy							
Role of combined modality thera	ару						
Mentor:	Trainee:			Departr	nent / Institu	ıte:	
Soft tissue sarcomas		Awa	reness	Knov	wledge	Com	petence
Soft tissue sarcomas		<b>Awa</b> yes	reness no	<b>Kno</b> v	wledge no	<b>Com</b> yes	<b>petence</b> no
Soft tissue sarcomas Surgery for initial diagnosis					•		•
	1	yes	no	yes	no		no
Surgery for initial diagnosis	1	yes	no	yes	no 🗆	yes	no
Surgery for initial diagnosis Indications for limb preservation	1	yes	no	yes	no	yes	no
Surgery for initial diagnosis Indications for limb preservation Role of chemotherapy Role of surgery Role of radiation therapy	1	yes	no	yes	no .	yes	no
Surgery for initial diagnosis Indications for limb preservation Role of chemotherapy Role of surgery	1	yes	no	yes	no	yes	no
Surgery for initial diagnosis Indications for limb preservation Role of chemotherapy Role of surgery Role of radiation therapy	1	yes	no	yes	no	yes	no

#### **Skin cancers**

Melanoma		Awa ves	reness no	Knov ves	wledge no	Com yes	petence no
Risk factors							
Clinical appearance of primary n	nelanomas and						
its precursor lesions, such as dy	splastic nevus						
Differentiation of skin lesions that	at are benign						
from those that are potentially m	•						
Value of tumor depth and other p	orognostic						
factors in assessing prognosis							
Surgical procedure in making the	e diagnosis						
and curative resection							
Indications for biologic therapies	s in the						
adjuvant setting							
Risks and benefits of chemother	apy in						
advanced disease							
Primary prevention of melanoma							
Recognition and counselling of p		_		_		_	
at high risk for developing melan	ioma						
Mentor:	Trainee:			Departr	ment / Institu	ıte:	
Basal cell and squamous cell Clinical appearance of lesions	cancers	yes	reness no	yes	wledge no	yes	petence no
Clinical appearance of lesions Association with sun exposure		yes	no	yes	no	yes	no
Clinical appearance of lesions		yes	no	yes	no	yes	no
Clinical appearance of lesions Association with sun exposure		yes	no	yes	no	yes	no
Clinical appearance of lesions Association with sun exposure Long-term complication of cancer	er therapy	yes	no	yes  □ □ □ □ Departr	no	yes	no
Clinical appearance of lesions Association with sun exposure Long-term complication of cance Mentor:  Endocrine cancers  Diagnostic work-up	er therapy	yes	no	yes  Departr	no  no  no  no  no  no  no  no  no  no	yes  under the company of the compan	no
Clinical appearance of lesions Association with sun exposure Long-term complication of cance Mentor:  Endocrine cancers	er therapy	yes  Awa yes	no	yes  Departr  Know yes	no	yes  tte:	no  petence no
Clinical appearance of lesions Association with sun exposure Long-term complication of cance Mentor:  Endocrine cancers  Diagnostic work-up Treatment of endocrine cancers Endocrine cancer as a part of a complex cancer as a complex cance	er therapy Trainee:	yes  Awa yes	reness no	yes  Departr	no	yes  rte:	petence no
Clinical appearance of lesions Association with sun exposure Long-term complication of cance Mentor:  Endocrine cancers  Diagnostic work-up Treatment of endocrine cancers Endocrine cancer as a part of a complete syndrome due to specific genetic	er therapy Trainee:	yes  Awa yes	reness no	yes  Departr	no	yes  rte:	petence no
Clinical appearance of lesions Association with sun exposure Long-term complication of cance Mentor:  Endocrine cancers  Diagnostic work-up Treatment of endocrine cancers Endocrine cancer as a part of a complex cancer as a complex cance	er therapy Trainee:	yes  Awa yes	reness	yes  Departr  Know yes	no	yes  cute:  Com yes  cutes	petence no

#### **Central nervous system malignancies**

Role of surgery in primary disea	00	yes	110	yes	110	yes	110
Role of surgery in metastatic dis							
Role of radiation therapy in prim		_			_	_	
Role of radiation therapy in meta	•						
' -	istatic						
disease	. diaaaa						
Role of chemotherapy in primary							
Role of chemotherapy in metast	auc disease						
Mentor:	Trainee:			Departr	ment / Institu	ıte:	
Carcinoma of unknow	vn primary	site					
		Awa	reness	Knov	wledge	Com	petence
		yes	no	yes	no	yes	no
Importance of tumor histopathol							
Pathologic analysis in directing t							
Tumor markers in directing the v	•						
Recognition of settings in which	treatment						
may affect survival							
Palliative treatment							
Mentor:	Trainee:			Departr	ment / Institu	ıte:	
Hematologic Maligna	ncies						
Tiemacologie Mangila							
Leukemia		Awa yes	reness no	Knov yes	<b>wledge</b> no	Com yes	<b>petence</b> no
Pathologic techniques in diagnos	sis						
Molecular biologic techniques in	diagnosis:						
Cytogenetics							
Immuno-phenotyping							
Polymerase chain reaction							
Current treatment recommendat	tions and their						
applications in adult population	and the elderly						
Mentor:	Trainee:			Departi	ment / Institu	ıte:	

Knowledge

Awareness

Competence

Acute leukemias and myelody	splasia	Awa	reness	Kno	wledge	Com	petence
		yes	no	yes	no	yes	no
Risk factors for developing leuke	emia						
French-American-British classif	cation						
Implications of classification for	treatment						
and prognosis							
Marrow transplantation							
Value of differentiation therapy							
Mentor:	Trainee:			Depart	ment / Instit	tute:	
Chronic leukemias		Awa	reness	Kno	wledge	Com	petence
		yes	no	yes	no	yes	no
Peripheral-blood smear							
Current therapeutic approaches							
Indications for marrow transplar	tation						
Mentor:	Trainee:			Depart	ment / Instit	tute:	
<b>Lymphomas</b> Ann Arbor Staging classification		yes	no	yes	wledge no	yes	no
	fication	yes	no	yes	no	yes	no
Ann Arbor Staging classification	fication Trainee:	yes	no	yes	no	yes	no
Ann Arbor Staging classification World Health Organization classi Mentor:		yes	no	yes  □  □  Depart	no	yes	no
Ann Arbor Staging classification World Health Organization classi		yes   Awa	no	yes  Depart	no  ment / Instit	yes  tute:	no
Ann Arbor Staging classification World Health Organization classi Mentor:  Hodgkin's disease		yes  Awa yes	no	yes  Depart  Kno yes	no  ment / Instit  wledge no	yes  tute:  Com yes	no
Ann Arbor Staging classification World Health Organization classi Mentor:  Hodgkin's disease Staging of Hodgkin's disease		yes  Awa yes	no	yes  Depart  Kno yes	no  ment / Instit  wledge no	yes  tute:	no   petence  no
Ann Arbor Staging classification World Health Organization classi Mentor:  Hodgkin's disease Staging of Hodgkin's disease Indications for surgical staging	Trainee:	yes  Awa yes	no	yes  Depart  Kno yes	ment / Instit	yes  tute:	no
Ann Arbor Staging classification World Health Organization classi Mentor:  Hodgkin's disease Staging of Hodgkin's disease Indications for surgical staging Role of radiation therapy in early	Trainee:	yes  Awa yes	no	yes  Depart  Kno yes	no  ment / Instit  wledge no	yes  tute:	no   petence  no
Ann Arbor Staging classification World Health Organization classi Mentor:  Hodgkin's disease Staging of Hodgkin's disease Indications for surgical staging Role of radiation therapy in early Indications for chemotherapy	Trainee:	yes  Awa yes	no	yes  Depart  Kno yes	ment / Instit	yes  tute:	no
Ann Arbor Staging classification World Health Organization classi Mentor:  Hodgkin's disease Staging of Hodgkin's disease Indications for surgical staging Role of radiation therapy in early Indications for chemotherapy in stages II, III, and IV	Trainee:	yes  Awa yes	no	yes  Depart  Kno yes  Compared  Comp	ment / Instit	yes cute:	no
Ann Arbor Staging classification World Health Organization classi Mentor:  Hodgkin's disease Staging of Hodgkin's disease Indications for surgical staging Role of radiation therapy in early Indications for chemotherapy in stages II, III, and IV Long-term complications of trea	Trainee:	yes  Awa yes	no	yes  Depart  Kno yes	ment / Instit	yes  cute:  Com yes	no
Ann Arbor Staging classification World Health Organization classi Mentor:  Hodgkin's disease Staging of Hodgkin's disease Indications for surgical staging Role of radiation therapy in early Indications for chemotherapy in stages II, III, and IV Long-term complications of trea Follow-up of patients	Trainee:stage disease tment	Awayes	no	yes  Depart  Kno yes	ment / Instit	yes  cute:  Com yes	no  petence no  no
Ann Arbor Staging classification World Health Organization classi Mentor:  Hodgkin's disease Staging of Hodgkin's disease Indications for surgical staging Role of radiation therapy in early Indications for chemotherapy in stages II, III, and IV Long-term complications of trea	Trainee:stage disease tment	Awayes	no	yes  Depart  Kno yes	ment / Instit	yes  cute:  Com yes	no  petence no  no

Non-Hodgkin's lymphoma	n-Hodgkin's lymphoma		reness no	<b>Knowledge</b> yes no		Competence yes no	
Association of lymphomas with I	HIV	-		-		-	
and immunosuppression							
Revised European-American Lyn	nphoma						
classification							
International Prognostic Factors							
Role of chemotherapy							
Value of marrow transplantation							
in relapsed or refractory disease							
Different types of low-grade lym							
(when treatment is indicated and	d when						
observation is appropriate)							
Role of radiation therapy							
Role of surgery							
Role of chemotherapy including	monoclonal						
antibodies in treatment							
Clinical properties of high-grade							
Role for intensive treatment of h	igh-grade						
lymphomas							
Mentor:	Trainee:			Departn	nent / Institu	te:	
Cutaneous T-cell lymphoma  Clinical appearance at different s	stages	Awar yes	reness	Knov yes	vledge no	Compyes	petence
Clinical appearance at different	stages	yes	no	yes	no	yes	no
	stages	yes	no	yes	no	yes	no
Clinical appearance at different solutions Value of immunophenotyping		yes	no	yes	no	yes	no
Clinical appearance at different s Value of immunophenotyping in diagnosis		yes	no	yes	no	yes	no
Clinical appearance at different s Value of immunophenotyping in diagnosis Role of psoralen and ultraviolet A	A in	yes	no	yes	no	yes	no
Clinical appearance at different solution Value of immunophenotyping in diagnosis Role of psoralen and ultraviolet A initial management	A in	yes	no	yes	no	yes	no
Clinical appearance at different so Value of immunophenotyping in diagnosis Role of psoralen and ultraviolet A initial management Role of radiation therapy in initial	A in	yes	no .	yes  □	no .	yes   □	no
Clinical appearance at different so Value of immunophenotyping in diagnosis Role of psoralen and ultraviolet A initial management Role of radiation therapy in initial management	A in	yes	no .	yes  □	no .	yes   □	no
Clinical appearance at different services Value of immunophenotyping in diagnosis Role of psoralen and ultraviolet A initial management Role of radiation therapy in initial management Role of topical chemotherapy in	A in	yes	no	yes	no .	yes	no
Clinical appearance at different si Value of immunophenotyping in diagnosis Role of psoralen and ultraviolet A initial management Role of radiation therapy in initial management Role of topical chemotherapy in initial management	A in	yes	no	yes	no .	yes	no
Clinical appearance at different services Value of immunophenotyping in diagnosis Role of psoralen and ultraviolet A initial management Role of radiation therapy in initial management Role of topical chemotherapy in initial management Palliative role of chemotherapy in	A in I n advanced	yes	no 	yes	no	yes	
Clinical appearance at different services Value of immunophenotyping in diagnosis Role of psoralen and ultraviolet A initial management Role of radiation therapy in initial management Role of topical chemotherapy in initial management Palliative role of chemotherapy in or refractory disease	A in I n advanced	yes	no 	yes	no	yes	
Clinical appearance at different services Value of immunophenotyping in diagnosis Role of psoralen and ultraviolet A initial management Role of radiation therapy in initial management Role of topical chemotherapy in initial management Palliative role of chemotherapy in or refractory disease Palliative role of biologic agents	A in I n advanced	yes	no 	yes		yes	
Clinical appearance at different so Value of immunophenotyping in diagnosis Role of psoralen and ultraviolet A initial management Role of radiation therapy in initial management Role of topical chemotherapy in initial management Palliative role of chemotherapy in or refractory disease Palliative role of biologic agents advanced or refractory disease	A in I n advanced	yes	no 	yes		yes	

		Awaı yes	reness no	Knov yes	wledge no	Com yes	<b>petence</b> no
How to distinguish the plasma co	ell dyscrasias:						
Monoclonal gammopathy of unknown							
significance							
Waldenstrom's macroglobulinem	nia						
Plasmacytoma							
Multiple myeloma							
POEMS (polyneuropathy, organo	megaly,						
endocrinopathy, monoclonal prote	ein, skin changes)						
Plasma cell leukemia							
Indications for treatment in each	instance						
Mentor:	Trainee:			Departr	nent / Institu	te:	
AIDS-associated malignancies							
AIDS-associated malignancie	S		reness		wledge		petence
v		<b>Awa</b> ı yes	r <b>eness</b> no	<b>Kno</b> v	<b>vledge</b> no	<b>Com</b> yes	<b>petence</b> no
Association of central nervous s	ystem tumors				·		•
Association of central nervous s with immunosuppression and Al	ystem tumors	yes	no	yes	no 🗆		no
Association of central nervous s with immunosuppression and Al Indications for treatment	ystem tumors DS	yes	no	yes	no _		no
Association of central nervous s with immunosuppression and Al Indications for treatment Increased toxicities attributable	ystem tumors DS	yes	no	yes	no 🗆	yes	no
Association of central nervous s with immunosuppression and Al Indications for treatment Increased toxicities attributable medical problems	ystem tumors DS to concurrent	yes	no	yes	no 🗆	yes	no
Association of central nervous s with immunosuppression and Al Indications for treatment Increased toxicities attributable medical problems Prophylaxis and treatment for co	ystem tumors DS to concurrent	yes	no	yes	no o	yes	no
Association of central nervous s with immunosuppression and Al Indications for treatment Increased toxicities attributable medical problems	ystem tumors DS to concurrent	yes	no	yes	no o	yes	no

# 5. Psychosocial Aspects of Cancer

Psychosocial influence of cancer		Awareness		Kno	wledge	Competence	
		yes	no	yes	no	yes	no
Recognition when intervention is							
Cultural issues that impact on the	ie						
management of disease							
Spiritual conflicts associated with	th the						
diagnosis and treatment							
Adaptive and maladaptive behave	vior in						
coping with disease							
Coping mechanisms by patients	and families						
within the context of the cancer	diagnosis						
Issues involved in end-of-life car	re						
Sexual dysfunction as a result of	f the disease,						
treatment, or because of psycho	0						
Indication and uses of psychotro	pic drugs						
Bereavement process							
Physicians' personal coping							
How to integrate family member	s, pastoral care,						
nursing support, hospice, and ca	ancer support						
groups							
Communication with patients an	d their family						
Break bad news							
Act adequately in difficult situati	ons						
Mentor:	Trainee:			Depart	ment / Instit	ute:	

### 6. Patient Education

Genetic Counselling		Awa yes	reness no	Knov yes	<b>wledge</b> no	Com yes	<b>petence</b> no
Assessment of the increased risk of cancer in the patient and the patient's family							
Principles for genetic screening and counselling							
Mentor:	Trainee:			Department / Institute:			
Health Maintenance			reness		wledge no		petence
Counselling the patients and the known risk factors for subseque		yes	no	yes	110	yes	110
Diet							
Smoking							
Alcohol							
Sun exposure							
Mentor:	Trainee:			Department / Institute:			
Long-Term Complications		<b>Awa</b> yes	reness no	<b>Kno</b> v	wledge no	<b>Com</b> yes	petence no
Recognition of long-term compli of each treatment modality	cations						
Risk of treatment-induced car	ncer	Awa yes	reness no	Knov yes	wledge no	Com yes	petence no
Acute myeloid leukemia after ch	emotherapy						
Radiation induced sarcomas	1,5						
Endocrine dysfunctions		· ·		Competence yes no			
Hypothyroidism after neck radia	tion						
Sterility with chemotherapy							
Chemoprevention measures							
Testing and intervals for follow-u	ıp						
Mentor: Trainee:				Departi	ment / Institu	ıte:	

## 7. Bioethics, Legal, and Economic Issues

Informed Consent	rmed Consent		reness no	Know yes	wledge no	Com ves	petence no	
Requirements for obtaining		yes		,		,		
informed consent								
Ethics		Awa	reness	Kno	wledge	Com	petence	
		yes	no	yes	no	yes	no	
Ethics involved in the conduct of								
medical research								
Legal Issues			reness		wledge	Competence		
		yes	no	yes	no	yes	no	
Related to anticancer treatment								
Life support								
Withdrawal of life support system	ns							
Cost Efficiency		Awareness		Knowledge		Competence		
		yes	no	yes	no	yes	no	
Cost effectiveness of medical int	tervention							
in the management of cancer								
Conflict of Interest		Awa	reness	Kno	wledge	Com	petence	
		yes	no	yes	no	yes	no	
Guidelines to define conflict of in	terest within							
professional activities								
Professional Attitude		Awa	reness	Kno	wledge	Com	petence	
		yes	no	yes	no	yes	no	
Professionalism and humanism i	n care of							
patients and their families								
Mentor:	Trainee:			Departi	ment / Instit	ute:		

### 8. Skills

Anticancer Agent Administration		Awareness		Knowledge		Competence	
		yes	no	yes	no	yes	no
Prescription of anticancer agent							
Administration of anticancer agents							
Care of and access to indwelling							
venous catheters							
Handling and disposal of chemo	therapeutic						
and biologic agents							
Mentor:	Trainee:			Departi	ment / Institu	ıte:	
Bone Marrow Aspiration, Biopsy, and Interpretation  Performance of marrow aspiration		<b>Awa</b> yes	reness no	<b>Kno</b> vyes	wledge no	<b>Com</b> yes	<b>petence</b> no
and biopsy	on						
Interpretation of marrow aspirat	ions						
and biopsies							
Mentor:	Trainee:			Denarti	ment / Institu	ıte:	
Worker.	Trumoo.			Борага	mont/ mont		
Ommaya Reservoir and Lumba	ar Puncture	Awa	reness	Kno	wledge	Com	petence
		yes	no	yes	no	yes	no
Performance of lumbar puncture							
administration of chemotherapy	-						
Use of subcutaneous device to a	idminister	_				_	
medication	liantiona						
Recognition and solving of compof administration devices	nications						
Administration of chemotherapy	through						
an Ommaya reservoir	unougn						
ari ominaya rosorvon							
Mentor:	Trainee:			Departi	ment / Institu	ıte:	

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The authors indicated no potential conflicts of interest.

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Notes	

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