

[The following certified translation is of a Ministerial Order published on pages 27751 to 27784 of issue n° 89 of the Spanish "Official State Gazette" (BOE) on Saturday 13 April 2013, setting out the specialty training curriculum for Medical Oncology.]

**3937** Order SSI/577/2013 of 5 April, approving and publishing the specialty training curriculum for Medical Oncology and the evaluation criteria for assessing specialists in training.

Article 21 of the Health Professions Act (Act 44 of 21 November 2003) establishes the procedure for approving specialty training curricula in health and medical sciences to be published in the Spanish Official State Gazette.

Pursuant to article 28.8 of Act 44/2003 of 21 November, the National Medical Oncology Committee has drawn up the speciality training curriculum for Medical Oncology and the evaluation criteria for assessing specialists in training, which has been approved by the National Medical Specialties Board, the advisory body for specialist healthcare training of the Ministry of Health, Social Services and Equality and the Ministry of Education, Culture and Sports.

The curriculum and evaluation criteria have been studied, analysed and approved by the Human Resources Committee of the National Health System, which is formed by the regional ministers of health of the Autonomous Communities, and representatives from the Ministry of Defence, the Ministry of Finance and Public Administration, the Ministry of Education, Culture and Sports, the Ministry of Employment and Social Security, and the Ministry of Health, Social Services and Equality.

By virtue whereof, pursuant to the provisions of article 21 of Act 44/2003 of 21 November, following approval by the National Medical Specialties Board, the Human Resources Committee of the National Health System, and the Ministry of Education and Science, I hereby order:

Article 1. *Object.*

The speciality training curriculum for Medical Oncology and evaluation criteria for assessing specialists in training, published as an annex to this order, are hereby approved.

Article 2. *Scope of application.*

The curriculum and evaluation criteria for assessing specialists in training will be applicable to residents assigned a training position in a Medical Oncology teaching unit on the basis of competitive residency examinations held in 2012 onwards, giving access to specialized health training in 2013 onwards, approved by Order SSI/1998/2012 of 18 September.

Sole transitory provision: *Medical Oncology specialists in training.*

1. Residents assigned a training post in Medical Oncology following examinations held prior to 2012 will follow the curriculum approved by Order SCO/3370/2006 of 9 October, approving and publishing the Medical Oncology curriculum.

2. Notwithstanding the foregoing provisions, if so proposed by the tutor and accepted by the resident, in the two months following the entry into force of this order the Teaching Committee and the Governing Body of the accredited teaching unit where the resident receives training may agree to adapt the individual training plan to the new training programme, insofar as it is compatible with the overall

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organisation of the accredited teaching unit and with the specific situation of each resident. In this case, the Employer will extend the resident's employment contract, as applicable, to cover the five years of training.

If the training programme is adapted as per the preceding paragraph, the Teaching Committee will notify the Registry of Specialists in Training within 15 days of enrolling the residents in the new training programme, using the form available in the following website: [http://www.msssi.gob.es/profesionales/formacion/registroEspecialistas/uniDocentes/oncologia\\_medica\\_2013.htm](http://www.msssi.gob.es/profesionales/formacion/registroEspecialistas/uniDocentes/oncologia_medica_2013.htm).

Likewise, the Teaching Committee must notify the office in charge of specialised health training of the corresponding autonomous community using the appropriate procedure determined by such office.

Sole final provision. *Entry into force.*

This order will enter into force on the day following its publication in the "Official State Gazette".

Madrid, 5 April 2013. – The Minister of Health, Social Services and Equality, Ana Mato Adrover.

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## ANNEX

### OFFICIAL MEDICAL ONCOLOGY CURRICULUM AND EVALUATION CRITERIA FOR ASSESSING SPECIALISTS IN TRAINING

**Name of the specialty: Medical Oncology**

**Duration: 5 years. Entry requirement: Undergraduate degree in medicine**

#### *I. Introduction. History and definition of the specialty*

Following the example of the United States of America, the Spanish Oncology Society (SEO, in its Spanish acronym) was created in 1970 as a multidisciplinary, nationwide association of clinical oncologists. In July 1977, the Society applied to the ministries of Education and Health for official recognition of the specialty of Medical Oncology. These ministries were instrumental in drafting Royal Decree 2015/1978 of 15 June regulating medical specialties.

Medical Oncology was recognized in Spain following the entry into force of the aforementioned Royal Decree, thus making Spain one of the first countries in the European Union to introduce a formal curriculum for training in Medical Oncology. The first training positions in Medical Oncology were offered in 1978, and the first Spanish medical oncologists began a 4-year residency training programme. The first National Medical Oncology Committee was established in April 1979.

The second National Medical Oncology Committee was formed in 1984, coinciding with the publication of Royal Decree 127/1984 of 11 January, regulating specialised medical curricula and the evaluation criteria for specialists in training. This committee updated the criteria for accrediting residency training in Medical Oncology.

Since then, Medical Oncology has changed dramatically. In the past 20 years, the training of medical oncologists has become increasingly more complex as a result of advances made in the understanding of cancer and how to prevent, diagnose and treat it more effectively.

Medical Oncology is a core medical specialty that requires basic training in clinical medicine, which enables specialists to evaluate and provide comprehensive care to cancer patients, with particular emphasis on decision-making and the prescription of cancer drugs. Medical oncologists must be good clinicians that are capable of diagnosing and solving the health problems presented by cancer patients, irrespective of whether these are related to their disease and their cancer treatment, until they are cured, or during disease progression and end-stage care, including the family's grieving process.

They must have in-depth knowledge of the preventive, diagnostic and therapeutic options available in cancer. They must constantly update their knowledge of cancer biology. As a sign of their commitment to the specialty, they must participate in research projects and promote a culture of research excellence, instilling a spirit of scientific debate and the implementation of innovative research, and acquire and transfer this methodology to their clinical practice.

Medical oncologists are above all responsible for using their in-depth knowledge of tumour biology and cancer pharmacology to prescribe cancer drugs, in accordance with their indications, mechanism of action, methods of administration, pharmacokinetics, interactions and toxicity. They must also be able to work in a multidisciplinary team, provide psychological support, and learn to engage appropriately with patients, their family members, and with health personnel in order to acquire the knowledge, skills and attitudes required by their professional status.

In a context of increased demand and limited resources, it is essential for residents to receive training in management techniques that will enable them to optimise resources and foster a patient-

centred strategy of continuous improvement.

In light of the complexity of training, and pursuant to the provisions of Act 44/2003 of 21 November, on the organization of healthcare professions, Commission Regulation (EU) No 213/2011 of 3 March 2011 amending Annexes II and V to Directive 2005/36/EC of the European Parliament and of the Council, where Medical Oncology is officially recognized by the EU with a minimum training period of 5 years, and the request made by the Executive Technical Committee of the Human Resources Committee of the National Health System (meeting of 30 March 2011) for the National Medical Oncology

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Committee to modify the speciality training curriculum for Medical Oncology, said Committee developed a new curriculum that defines both the core and specialist competencies to be acquired over the training period, and establishes the criteria for assessing specialists in training by means of different evaluation instruments.

## II. *Development of the curriculum*

This curriculum has been drawn up by the National Medical Oncology Committee, formed by:

Chair: Alfredo Carrato Mena

Deputy Chair: Jesús García Foncillas

Members: Eduardo Díaz Rubio, Juan Jesús Cruz Hernández, Pilar Garrido López, Miguel Hernández Bronchud, José Antonio Ortega, José Ignacio Mayordomo, Estefanía Arévalo Vázquez, Reyes Ferreiro Monteagudo.

Procedure:

At the request of the National Committee, a working group of medical oncologists from the Spanish Society of Medical Oncology and experts in medical training was established, formed by: Jesús Corral Jaime, Jordi Remon Masip, Jesús García Gómez, Joaquim Bosch Barrera, Cristina Grávalos Castro, María Nolla Domenjó, Arcadio Gual Sala, Jorge Luis Palés Argullos, Pilar Garrido López, Alfredo Carrato Mena.

The competencies required in Medical Oncology and the recommended evaluation instruments and criteria have been developed on the basis of the following regulations and the draft core medical curriculum and generic competencies drawn up by the working groups of the National Medical Specialties Board. Once the proposal was drafted, it was sent to the members of the National Medical Oncology Committee for comments before publishing this definitive curriculum.

Regulations, legal frameworks, and references used:

- Act 44/2003 of 21 November, on the organization of healthcare professions.
- Royal Decree 183/2008 of 8 February, which determines and classifies medical specialties and develops certain aspects of the specialized health training system.
- Order SCO/3370/2006 of 9 October, approving and publishing the official curriculum for the specialty of Medical Oncology.
- Commission Regulation (EU) No 213/2011 of 3 March 2011 amending Annexes II and V to Directive 2005/36/EC of the European Parliament and of the Council, on the recognition of professional qualifications.
- Recommendations for a Global Core Curriculum in Medical Oncology. ESMO/ASCO Task Force on Global Curriculum in Medical Oncology: Hansen H, Bajorin DF, Muss HB et al. *J Clin Oncol* 2004; 22:4616-4626.
- Request made by the Technical Committee of the Human Resources Committee of the National Health System (meeting of 30 March 2011) for the National Medical Oncology Committee to modify the Medical Oncology curriculum and adapt it to the duration required by Directive 2005/36/EC of the European Parliament and of the Council, considering the core training curriculum for medical specialties.
- How to Organize a Fellowship Program: Lessons Learned and how to include

Accreditation Council for Graduate Medical Education Competencies in the Curriculum. Collichio FA, Kosty MP, Moynihan TJ et al. J Clin Oncol 2010; 28:3659-3667

– Specialty Training Curriculum for Medical Oncology. May 2007. UK Joint Royal Colleges of Physicians Training Board.

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### III. *Aims of the programme*

The main aim of the programme is to establish the competences that must be acquired and developed during specialist training to qualify the resident as a Medical Oncologist. The secondary aim is to propose the evaluation criteria for assessing these competencies.

### IV. *Training itinerary*

To qualify as a Medical Oncologist, residents must complete a 2-year core training period and a 3-year period of specific training in the specialty itself. Therefore, the duration of training is 5 years. Over these two periods, residents must acquire and develop generic or transversal skills common to all medical specialties (Figure 1).

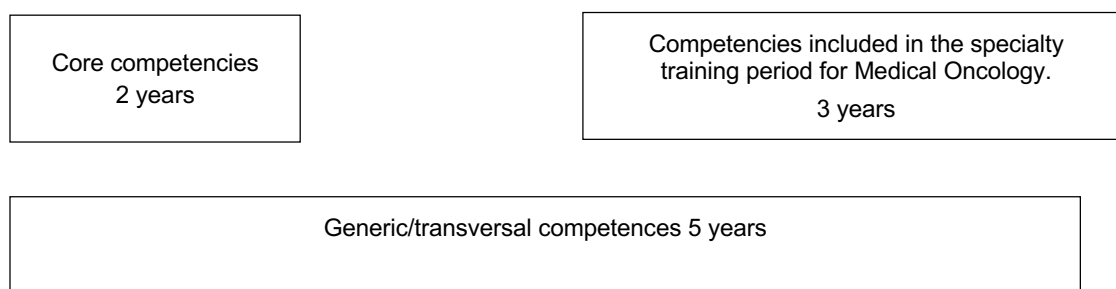


Figure 1. Training itinerary diagram

For the first two years, residents must complete scientific training in clinical medicine and specialties, and in the organization of clinical practice in hospitals and primary care. During the specific training period in Medical Oncology (third, fourth and fifth years), residents, working under the supervision of the consultant medical oncologist, must gradually take on direct responsibility for the specialised care of hospitalised and ambulatory cancer patients, in both their first and follow-up visits, and rotate through all functional units of the service. They must collaborate in the development of research projects, and be familiar with research methodology.

For the first two years, residents will be included in the on-call rota, including the duty shift of their teaching hospital, in order to acquire competence in medical emergencies. From the third year onwards, they will perform on-call duties, including Medical Oncology duty shifts, as part of their teaching programme.

### V. *Competencies residents must acquire and develop during training*

#### V.1) Generic competencies

This document defines the generic competencies residents must acquire during their specialist training period, and proposes appropriate instruments for assessing these competencies. Some competencies can be assessed at different levels (cognitive and behavioural), and therefore can be assessed with more than one instrument. A global assessment system is included in section VI of this annex.

Generic competencies are grouped into the following sections:

- A. Professional values and attitudes. Bioethical principles.
- B. Clinical communication.
- C. General clinical skills.

- D. Drug management.
- E. Determinants of health and disease and health promotion.
- F. Clinical information management.
- G. Research.
- H. Teaching and training.
- I. Teamwork.
- J. Clinical and quality management.
- K. Health and safety.
- L. Languages.

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The following is a list of the generic competences with their corresponding assessment instruments. Section VIII of this annex defines each of the proposed assessment instruments:

- A) Written exams.
- B) Observation.
- C) Audit of clinical records.
- D) Resident's log book and portfolio (Activity record + reflection).
- E) 360 degree feedback.

COMPETENCIES A. PROFESSIONAL VALUES AND ATTITUDES. BIOETHICAL PRINCIPLES	INSTRUMENTS				
	A	B	C	D	E
1. Apply bioethical principles and moral deliberation in professional practice				*	
2. Comply with the principles and values of health systems					
3. Undertake to uphold the values of the profession					
4. Detect and resolve ethical conflicts				*	
5. Respect patient values, taking into account diversity and frailty, and develop a non-discriminatory attitude					
6. Correctly implement the informed consent process					
7. Assess the capacity of patients to make health-related decisions. Apply the Patient Autonomy Act (Act 41/2002)					
8. Promptly detect and notify situations of gender violence and abuse, and know with the protocols established in these cases				*	
9. Promptly detect and notify situations of gender violence and abuse, and be familiar with the protocols established in these cases					
10. Know the ethical and legal aspects of maintaining patient confidentiality and professional secrecy in the management of information, documentation and medical histories					
11. Know the fundamental legislation governing the medical profession					
12. Write medical legal documents					
13. Participate in advanced care planning processes				*	
14. Know the functioning of the Research Ethics Board					

\* Evidence in the Resident's Log Book and portfolio:

- A.1. Report a critical incident related to medical oncology.
- A.4. Report a critical incident related to medical oncology.
- A.8. Summary and reflection on at least one case.
- A.13. Summary and reflection on a case.

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COMPETENCIES B. CLINICAL COMMUNICATION	INSTRUMENTS				
	A	B	C	D	E
1. Apply the basic principles of human communication in clinical practice when dealing with patients, family members, caregivers and other professionals					
2. Choose the correct communication method or channel for changing situations and different individuals: <ul style="list-style-type: none"> <li>a. give bad news</li> <li>b. communicate with terminally ill patients</li> <li>c. ask about sexual history</li> <li>d. communicate with difficult and/or aggressive patients</li> <li>e. communicate with specific population groups (children, adolescents, the elderly, immigrants, and the disabled)</li> </ul>					
3. Evaluate the impact of the disease on the patient and their family members, and alleviate their suffering by maximising empathy					
4. Develop a supportive relationship with chronically ill patients					
5. Reach agreements with patient and their family members					

COMPETENCIES C. GENERAL CLINICAL SKILLS	INSTRUMENTS				
	A	B	C	D	E
1. Conduct a clinical interview.					
2. Write medical histories and other medical records that are easily understood by third parties.					
3. Perform a complete physical examination and adapt it to the clinical context					
4. Diagnose all types of patients					
5. Indicate and interpret complementary studies					
6. Apply criteria for referral/inter-departmental consultation					
7. Implement strategies to improve therapeutic adherence					
8. Perform a complete physical examination and adapt it to the clinical context [sic]					
9. Diagnose all types of patients [sic]					
10. Indicate and interpret complementary studies [sic]					
11. Apply criteria for referral/inter-departmental consultation [sic]					
12. Implement strategies to improve therapeutic adherence					

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COMPETENCIES D. DRUG MANAGEMENT	INSTRUMENTS				
	A	B	C	D	E
1. Comply with ethical drug prescription standards					
2. Know and prevent the side effects and interactions associated with the most commonly used medications					
3. Diagnose and treat the most common drug-induced adverse reactions					
4. Know the pathological situations and idiosyncratic factors that affect the prescription and dosage of drugs					
5. Know how to manage drugs for specific groups: children, the elderly, pregnant and breastfeeding women					
6. Use drugs rationally: <ul style="list-style-type: none"> <li>a. know the cost-benefit ratio</li> <li>b. indicate the correct use of active ingredients and/or generic medicines</li> </ul>					

7. Know how to submit an adverse reactions notification to the Spanish Pharmacovigilance System					
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COMPETENCIES E. DETERMINANTS OF HEALTH AND DISEASE AND HEALTH PROMOTION	INSTRUMENTS				
	A	B	C	D	E
1. Obtain and use epidemiological data and evaluate their effect on medical decision-making				*	
2. Engage in individual and community health promotion and education activities				*	
3. Identify and prevent workplace risks and occupational diseases					
4. Structure patient education programs				*	
5. Know how to report notifiable diseases					

\* Evidence in the Resident's Log Book:

- E.1. Summary and reflection on a case
- E.2. Summary and reflection on an activity
- E.4. Summary and reflection on a programme

COMPETENCIES F. MANAGEMENT OF CLINICAL INFORMATION	INSTRUMENTS				
	B [sic]	C [sic]	D [sic]	E [sic]	A [sic]
1. Use and perform a critical analysis of sources of clinical information				*	
2. Use information and communication technologies in the workplace					
3. Know the general characteristics of the health information system and interpret the most frequently used indicators					
4. Use the different health registration systems					
5. Know the basic codes used in the international classification of diseases (ICD)					
6. Know the main sources of protocols and clinical practice guidelines					

\* Evidence in the Resident's Log Book:

- F.1. Summary and reflection on a literature review

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COMPETENCIES G. RESEARCH	INSTRUMENTS				
	A	B	C	D	E
1. Use scientific methods to formulate working hypotheses for research and collect and critically evaluate information to resolve problems				*	
2. Apply the scientific and bioethical principles of biomedical research and participate in the design and development of research projects				*	
3. Design, collect data and perform basic statistical studies using computer programs				*	
4. Make presentations at scientific meetings and publish papers in scientific journals				*	
5. Develop literature search skills				*	
6. Develop critical reading skills				*	
7. Interpret meta-analyses and systematic reviews and apply their conclusions				*	

8. Know the basic principles of Evidence Based Medicine					
9. Interpret the results of technology evaluation reports					

\* Evidence in the Resident's Log Book:

- G.1., G.2. Summary and reflection on a research project in which the resident has participated
- G.3. Report and reflection on a basic statistical study
- G.4. An oral communication accepted and an article accepted in a scientific journal
- G.5. G.5., G.6. Included in F.1.
- G.7. Interpretation of a systematic review

COMPETENCIES H. TEACHING AND TRAINING	INSTRUMENTS				
	A	B	C	D	E
1. Know the principles of professional training					
2. Apply the scientific and bioethical principles of biomedical research and participate in the design and development of research projects				*	
3. Know teaching and competency-based assessment methodologies					
4. Participate in the planning, design and delivery of scheduled training activities				*	
5. Collaborate in training other professionals and students				*	

\* Evidence in the Resident's Log Book and portfolio:

- H.2. Summary and reflection each quarter (in line with quarterly resident-tutor interviews)
- H.4. Summary and reflection on this type of activity once a year
- H.5. Summary and reflection on this type of activity once a year

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COMPETENCIES I. TEAMWORK	INSTRUMENTS				
	A	B	C	D	E
1. Know the roles and distribution of responsibilities among team members					
2. Communicate and collaborate appropriately with peers and respect their contributions					
3. Work effectively in a multidisciplinary team, maintaining a positive and collaborative attitude					
4. Engage with other health professionals, understanding each other's role within the ethical and legal limits of their competencies					
5. Actively participate in work meetings with other professionals					
6. Contribute to conflict resolution					
7. Be aware of the need to ask for help or consult other professionals and be able to do so whenever required					

COMPETENCIES J. CLINICAL AND QUALITY MANAGEMENT	INSTRUMENTS				
	A	B	C	D	E
1. Know how healthcare is planned, administered and organised at a state and regional level					
2. Participate in institutional quality improvement activities				*	
3. Know clinical management agreements, information and quality control systems, and analysis and evaluation of results					
4. Be able to contribute to organizational changes					
5. Participate in elaborating criteria, indicators or quality standards in respect of the structure, clinical practice procedures or outcomes, based on scientific evidence (protocols, clinical practice guidelines, etc.)				*	
6. Make efficient use of available resources					
7. Know the importance of coordination between specialties and levels of care					
8. Use special healthcare resources: day hospital, rapid diagnostic units, home hospital, social resources, palliative care, etc.					
9. Comply with general patient safety standards					



\* Evidence in the Resident's Log Book:

J.2. Record a quality improvement activity in which the resident has participated

J.5. Protocol or clinical practice guideline in which the resident has participated

COMPETENCIES K. HEALTH AND SAFETY	INSTRUMENTS				
	A	B	C	D	E
1. Use preventive and therapeutic measures to protect healthcare professionals against workplace risks and diseases					

COMPETENCIES L. LANGUAGES	INSTRUMENTS				
	A	B	C	D	E
1. Read, understand and write scientific manuscripts in English (minimum level: B2)					

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### V.2) Core training competencies

Competencies acquired during this period must be adapted and modified to comply with those required by the Ministry of Health, Social Services and Equality in the core medical training program, once this has been drawn up by the Core Medical Training Executive Committee, the National Health Science Specialists Board, the Human Resources Committee of the National Health System, and the Ministry of Education Culture and Sports.

This section defines the competencies residents must acquire during their core training period, indicating the appropriate instruments for assessing these competencies. Some competencies can be assessed at different levels (cognitive and behavioural) and therefore can be assessed with more than one instrument. A global assessment system is included in section VI of this annex.

Competencies are grouped as follows:

- A) Cardiovascular disease.
- B) Endocrine, nutritional and metabolic diseases.
- C) Diseases of the genitourinary system.
- D) Diseases of the digestive system.
- E) Infectious diseases.
- F) Diseases of the musculoskeletal system and connective tissue.
- G) Diseases of the nervous system.
- H) ENT diseases.
- I) Diseases of the eye.
- J) Neoplasms.
- K) Diseases of the skin.
- L) Diseases of the blood and blood-forming organs.
- M) Diseases of the respiratory system.
- N) Mental health.
- O) Geriatric medicine.
- P) Palliative care.
- Q) Allergic and hypersensitive conditions.
- R) Critical and emergency care.
- S) Ill-defined signs and symptoms.

COMPETENCIES A. CARDIOVASCULAR DISEASES	INSTRUMENTS			
	A	B	C	D
1. Identify the main signs and symptoms of cardiovascular disease				

2. Interpret a normal and abnormal ECG				
3. Indicate and interpret appropriate analytical tests				
4. Know the indications for diagnostic imaging studies				
5. Know the indications for invasive and non-invasive diagnostic tests				
6. Place a peripheral venous line				
7. Perform arterial puncture				
8. Prevent and treat the risk factors for cardiovascular diseases				

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COMPETENCIES A. CARDIOVASCULAR DISEASES	INSTRUMENTS			
	A	B	C	D
9. Diagnose and start treatment for: - Cardiac arrest - Shock - High blood pressure - Heart failure - Coronary artery disease - Arrhythmias: Atrial fibrillation and ventricular tachycardias - Syncope. AV block - Valvular heart disease - Endocarditis - Pericardium diseases - Peripheral vascular disease - Lymphoedema and lymphangitis				
10. Know the indications, effectiveness and risks of different therapeutic options				
11. Know the indications and effectiveness of cardiac rehabilitation				
12. Evaluate the possible occupational origin of the patient's symptoms				

COMPETENCIES B. ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES	INSTRUMENTS			
	A	B	C	D
1. Identify the main signs and symptoms of endocrine, nutritional and metabolic diseases				
2. Indicate and interpret appropriate analytical tests				
3. Know the indications for diagnostic imaging studies				
4. Evaluate the patient's nutritional status and make dietary recommendations				
5. Prevent risk factors for endocrine, nutritional and metabolic diseases				
6. Diagnose and start treatment for: - Diabetes mellitus and associated complications - Obesity and other eating disorders - Dyslipidaemia - Primary hypothyroidism				
6. Diagnose: - Hyperthyroidism and other thyroid disorders - Hyperparathyroidism - Adrenal insufficiency				
8. Know the indications, effectiveness and risks of different therapeutic options				
9. Evaluate the possible occupational origin of the patient's symptoms				

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COMPETENCIES C. DISEASES OF THE GENITOURINARY SYSTEM	INSTRUMENTS			
	A	B	C	D
1. Identify the main signs and symptoms of diseases of the genitourinary system				
2. Indicate and interpret appropriate analytical tests				
3. Know the indications for diagnostic imaging studies				
4. Perform and interpret a digital rectal examination				
5. Insert a urinary catheter				
6. Prevent risk factors for diseases of the genitourinary system, particularly acute kidney failure				
7. Diagnose and start treatment for: - Renal colic - Prerenal kidney injury and obstructive urinary disease - Urinary retention - Urinary tract infection				
8. Diagnose: - Urinary incontinence - Neurogenic bladder - Chronic kidney disease - Acute testicular disease				
9. Know the indications, effectiveness and risks of different therapeutic options				
10. Use drugs to treat physiological or pathological kidney injury				
11. Evaluate the possible occupational origin of the patient's symptoms				

COMPETENCIES D. DISEASES OF THE DIGESTIVE SYSTEM	INSTRUMENTS			
	A	B	C	D
1. Identify the main signs and symptoms of diseases of the digestive system, liver and pancreas				
2. Indicate and interpret appropriate analytical tests				
3. Know the indications for diagnostic endoscopy and imaging studies				
4. Prevent risk factors for diseases of the digestive system, liver and pancreas				
5. Perform: - Nasogastric tube insertion - Digital rectal examination - Diagnostic and therapeutic paracentesis				

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COMPETENCIES D. DISEASES OF THE DIGESTIVE SYSTEM	INSTRUMENTS			
	A	B	C	D
6. Diagnose and start treatment for: - Gastroesophageal reflux disease - Peptic ulcer - Functional gastrointestinal disorders - Upper and lower gastrointestinal bleeding - Celiac disease - Acute gastroenteritis - Acute diverticulitis - Haemorrhoids and anal fissure - Biliary colic - Acute cholecystitis and cholangitis - Acute pancreatitis				
7. Diagnose: - Intestinal ischaemia - Inflammatory bowel disease - Intestinal obstruction and pseudo-obstruction				

- Acute and chronic hepatitis - Liver cirrhosis and associated complications - Obstructive jaundice				
8. Know the indications, effectiveness and risks of different invasive and pharmacological therapeutic options				
9. Evaluate the possible occupational origin of the patient's symptoms				

COMPETENCIES E. INFECTIOUS DISEASES	INSTRUMENTS			
	A	B	C	D
1. Identify the main signs and symptoms of infectious diseases not included elsewhere				
2. Indicate and interpret appropriate analytical, mainly microbiological, tests				
3. Know the indications for diagnostic imaging studies				
4. Prevent risk factors for infectious diseases, including measures to improve in-hospital and out-of-hospital hygiene.				
5. Diagnose and start treatment, including invasive therapies if required, for: - Sepsis and septic shock - HIV and associated complications - Mycobacterial Infections - Sexually transmitted diseases - Nosocomial infections - Emerging infectious diseases - Osteo-articular and soft tissue infections				
6. Know and start antimicrobial therapy in accordance with the protocols approved in each hospital				
7. Know the indications, effectiveness and risks of different therapeutic options				
8. Evaluate the possible occupational origin of the patient's symptoms				

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COMPETENCIES F. DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE	INSTRUMENTS			
	A	B	C	D
1. Identify the primary signs and symptoms of diseases of the musculoskeletal system and connective tissue				
2. Perform a physical examination of the musculoskeletal system				
3. Indicate and interpret the most common laboratory tests				
4. Indicate knee arthrocentesis				
5. Interpret the characteristics of synovial fluid				
6. Indicate and interpret imaging studies				
7. Prevent risk factors for diseases of the musculoskeletal system and connective tissue				
9. Diagnose: - Peripheral and axial arthritis - Low back pain: acute and chronic. Warning signs - Osteoporosis - Soft tissue rheumatism. Diffuse pain syndromes				
8. Diagnose and treat: - Inflammatory arthropathies: rheumatoid arthritis, microcrystalline arthropathies and spondyloarthropathies - Giant cell arteritis/Polymyalgia rheumatica and systemic lupus erythematosus - Infectious arthritis				
10. Know the indications, effectiveness and risks of different therapeutic options				
11. Know the general guidelines for rehabilitation and functional recovery from diseases of the musculoskeletal system.				
12. Evaluate the possible occupational origin of the patient's symptoms				

COMPETENCIES G. DISEASES OF THE NERVOUS SYSTEM	INSTRUMENTS			
	A	B	C	D
1. Identify the main signs and symptoms of diseases of the nervous system				
2. Indicate and interpret appropriate analytical tests				
3. Indicate imaging studies				
4. Indicate basic neurophysiological studies (EEG, EMG and evoked potentials)				
5. Perform lumbar puncture.				
6. Prevent risk factors for diseases of the nervous system				
7. Diagnose and start treatment for: - Coma - Headache - Seizures and epilepsy - Stroke - Meningitis, encephalitis, intracranial abscess and empyema - Peripheral nerve entrapment syndromes				

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COMPETENCIES G. DISEASES OF THE NERVOUS SYSTEM	INSTRUMENTS			
	A	B	C	D
8. Diagnose: - Dementia - Parkinson's disease and other extrapyramidal movement disorders - Ataxias - Cranial nerve disorders - Spinal cord diseases - Multiple sclerosis and other demyelinating diseases - Polyneuropathies				
9. Know the indications, effectiveness and risks of different therapeutic options				
10. Know the general guidelines for rehabilitation and functional recovery from neurological diseases.				
11. Evaluate the possible occupational origin of the patient's symptoms				

COMPETENCIES H. ENT DISEASES	INSTRUMENTS			
	A	B	C	D
1. Identify the main signs and symptoms of ENT diseases				
2. Indicate and interpret appropriate analytical tests				
3. Know the indications for diagnostic imaging studies				
4. Perform otoscopy, anterior rhinoscopy, direct laryngoscopy, and anterior nasal packing				
5. Prevent and treat risk factors for ENT diseases				
6. Diagnose and start treatment for: - Rhinosinusitis - Otitis - Pharyngotonsillitis - Foreign body - Vertigo - Wax blockage - Epistaxis				
7. Diagnose:				

- Tinnitus - Hearing loss - Dysphonia				
8. Know the indications, effectiveness and risks of different therapeutic options				
9. Evaluate the possible occupational origin of the patient's symptoms				

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COMPETENCIES I. DISEASES OF THE EYE	INSTRUMENTS			
	A	B	C	D
1. Identify the main signs and symptoms of diseases of the eye				
2. Indicate and interpret appropriate analytical tests				
3. Know the indications for diagnostic imaging studies				
4. Perform fluorescein eye stain and an ophthalmoscopic examination				
5. Take primary and secondary prevention measures against risk factors for diseases of the eye				
6. Diagnose and start treatment for: - Red eye - Acute glaucoma - Herpes zoster - Corneal erosion - Chalazion - Acute conjunctivitis - Foreign body				
7. Diagnose: - Diabetic and hypertensive retinopathy - Sudden loss of visual acuity - Myodesopsia - Eye pain - Dry or watery eyes - Strabismus				
8. Know the indications, effectiveness and risks of different therapeutic options				
9. Evaluate the possible occupational origin of the patient's symptoms				

COMPETENCIES J. NEOPLASMS	INSTRUMENTS			
	A	B	C	D
1. Know the natural history of cancer and its routes of metastasis, mainly lung, colorectal, breast, genitourinary cancer.				
2. Know the principles, indications and general complications of chemotherapy and radiotherapy.				
3. Know the main familial cancer syndromes and cancer prevention programs				
4. Diagnose and initiate medical treatment of the most frequent cancer-related emergencies: - Hypercalcaemia - Superior vena cava syndrome - Spinal cord compression - Cardiac tamponade - Blood disorders (fever, neutropenia) - Mucositis - Diarrhoea - Intracranial hypertension - Tumour bleed				
5. Start palliative care in the last days of life.				
9. Evaluate the possible occupational origin of the patient's symptoms				

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COMPETENCIES K. DISEASES OF THE SKIN	INSTRUMENTS			
	A	B	C	D
1. Identify the main signs and symptoms of diseases of the skin				
2. Indicate and interpret appropriate analytical tests				
3. Prevent and treat risk factors for diseases of the skin				
4. Diagnose and start treatment for: - Burns - Dermatomycosis - Seborrheic dermatitis - Pruritus - Psoriasis				
5. Diagnose: - Acne - Hyperpigmented lesions - Erythematous lesions - Infections and parasitosis - Hypersensitivity skin reactions - Ulcers - Lesions of the oral and genital mucosa - Occupational skin diseases - Lipomas, sebaceous cysts				
6. Know the indications, effectiveness and risks of different therapeutic options				
7. Evaluate the possible occupational origin of the patient's symptoms				

COMPETENCIES L. DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS	INSTRUMENTS			
	A	B	C	D
1. Identify the main signs and symptoms of diseases of the blood and blood-forming organs				
2. Indicate and interpret appropriate analytical tests				
3. Know the indications for special blood tests				
4. Know the indications for diagnostic imaging studies				
5. Know the indications for administration of blood products.				
6. Have basic knowledge of anticoagulation and antiplatelet agents				
7. Interpret the main haematological alterations in non-haematological medical processes.				
8. Prevent risk factors for diseases of the blood and blood-forming organs				
9. Diagnose and start treatment for: - Iron deficiency anaemia - Deep vein thrombosis - Megaloblastic anaemia - Anaemia of chronic diseases - Thrombotic/haemorrhagic processes in general				

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COMPETENCIES L. DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS	INSTRUMENTS			
	A	B	C	D
10. Diagnose: - Haemolytic anaemia - Lymphoma - Chronic lung disease - Multiple myeloma/Monoclonal gammopathy - Acute leukaemia/Myelodysplastic syndrome - Myeloid and chronic lymphoid leukaemia - Haemophilia				

- Immune thrombocytopenic purpura				
11. Know the indications, effectiveness and risks of different therapeutic options				
12. Evaluate the possible occupational origin of the patient's symptoms				

COMPETENCIES M. DISEASES OF THE RESPIRATORY SYSTEM	INSTRUMENTS			
	A	B	C	D
1. Identify the main signs and symptoms of diseases of the respiratory system				
2. Indicate and interpret appropriate analytical tests: arterial blood gases				
3. Indicate and interpret a chest radiograph and chest CT scan				
4. Indicate and interpret lung function tests: spirometry				
5. Perform pneumothorax drainage using minimally invasive techniques and thoracentesis.				
6. Diagnose and start treatment for: - Haemoptysis - COPD and exacerbations - Asthma and exacerbations - Pneumonia - Pneumothorax and pleural effusion - Pulmonary embolism - Acute and chronic respiratory failure. Oxygen therapy				
7. Diagnose: - Apnoea and obstructive sleep hypopnoea - Pulmonary hypertension - Interstitial lung disorders - Occupational lung disease				
8. Know the indications, effectiveness and risks of different therapeutic options. Non-invasive mechanical ventilation.				
9. Know the indications and efficacy of respiratory rehabilitation.				
10. Take a proactive approach to the deleterious effects of smoking, smoking prevention and treatment				
11. Evaluate the possible occupational origin of the patient's symptoms				

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COMPETENCIES N. MENTAL HEALTH	INSTRUMENTS			
	A	B	C	D
1. Identify the main signs and symptoms of mental disorders				
2. Indicate and interpret appropriate analytical tests				
3. Know the indications for diagnostic imaging studies				
4. Prevent and treat risk factors for mental disorders and addictions				
5. Manage aggressive patients		*		
6. Diagnose and start treatment for: - Anxiety disorder - Sleep disorders				
7. Diagnose: - Depression. Suicide risk factors - Behavioural disorders: addictions, eating disorders and sexual disorders - Psychotic disorder - Personality disorder				
8. Know the indications, effectiveness and risks of different therapeutic options				
9. Know the indications and efficacy of psychiatric rehabilitation.				
10. Evaluate the possible occupational origin of the patient's symptoms				

\* *Clinical evaluation exercise*



COMPETENCIES O. GERIATRIC MEDICINE	INSTRUMENTS			
	A	B	C	D
1. Know the special characteristics of ageing				
2. Perform a comprehensive geriatric evaluation				
3. Develop strategies to treat the principal geriatric syndromes and adapt them to the patient's comorbidity and polypharmacy				
4. Evaluate the degree of dependence and functional limitation				
5. Evaluate and prevent caregiver overload				
6. Establish preventive measures for frailty, bedsores and mobility limitations				
7. Prescribe drugs on the basis of age-related pharmacokinetic and pharmacodynamic modifications.				

COMPETENCIES P. PALLIATIVE CARE	INSTRUMENTS			
	A	B	C	E
1. Obtain a targeted and overall medical history to control symptoms at the end of life.				
2. Diagnose and start treatment for symptoms in the last days of life				
3. Apply pain scales and start treatment.				

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COMPETENCIES P. PALLIATIVE CARE	INSTRUMENTS			
	A	B	C	E
4. Know the indications for different invasive and non-invasive pain management therapies				
5. Evaluate the degree of dependence and functional limitation				
6. Evaluate and prevent caregiver overload				

COMPETENCIES Q. ALLERGIC AND HYPERSENSITIVE CONDITIONS	INSTRUMENTS			
	A	B	C	E
1. Identify the main signs and symptoms of allergic conditions				
2. Know, Indicate and interpret appropriate analytical tests				
3. Know the indications for diagnostic imaging studies				
4. Know the principal allergens				
5. Prevent and treat risk factors for allergic conditions				
6. Diagnose and start treatment for: - Rhinoconjunctivitis - Asthma - Anaphylaxis - Skin allergy: hives, angioedema, atopic dermatitis and contact dermatitis				
7. Diagnose: - Drug allergies - Food allergies - Occupational allergies - Allergies to insects and parasites				
8. Know the indications, effectiveness and risks of different therapeutic options				
9. Evaluate the possible occupational origin of the patient's symptoms				

COMPETENCIES R. CRITICAL AND EMERGENCY CARE	INSTRUMENTS			
	A	B	C	E
1. Identify the main signs and symptoms of a life-threatening condition				
2. Indicate and interpret diagnostic imaging tests and appropriate analytical tests				
3. Indicate and interpret basic monitoring data				
4. Perform emergency room triage				
5. Secure the airway and give ventilatory support.				

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COMPETENCIES R. CRITICAL AND EMERGENCY CARE	INSTRUMENTS			
	A	B	C	E
6. Diagnose and start treatment for: a. Shock b. Cardiorespiratory arrest, and advanced cardiopulmonary resuscitation c. Acute chest pain d. Altered level of consciousness e. Acute confusional state f. Convulsions. Status epilepticus g. Acute respiratory failure. h. Multiple trauma i. Serious electrolyte and osmolarity abnormalities j. Burns k. Drowning l. Intoxication m. Anaphylaxis n. Acute abdomen o. Gastrointestinal bleeding p. Epistaxis				
7. Technical skills: - Place a peripheral and central venous line - Drain pneumothorax using minimally invasive techniques and thoracentesis. - Perform anterior nasal packing - Perform lumbar puncture - Place a urinary catheter - Insert a nasal tube				

COMPETENCIES S. ILL-DEFINED SIGNS AND SYMPTOMS	INSTRUMENTS			
	A	B	C	E
1. Identify signs and symptoms not associated with onset of a specific organic or systemic disease				
2. Perform differential diagnosis of such signs and symptoms				
3. Establish a diagnostic and therapeutic plan based on: <b>Symptoms</b> - Fever - Fever of unknown origin - Weight loss/gain - Asthenia - Chest pain - Abdominal pain - Haematuria - Confusional state - Encephalopathy				

- Headache				
- Pruritus				
- Diarrhoea				
- Constipation				
- Dysphagia				
- Polydipsia				

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COMPETENCIES S. ILL-DEFINED SIGNS AND SYMPTOMS	INSTRUMENTS			
	A	B	C	E
<b>Signs</b> <ul style="list-style-type: none"> <li>- Hypothermia</li> <li>- Red eye</li> <li>- Purpura</li> <li>- Cutaneous vasculitis</li> <li>- Oedema</li> <li>- Peripheral lymphadenopathy</li> <li>- Hepatomegaly</li> <li>- Splenomegaly</li> <li>- Ascites</li> <li>- Panniculitis/erythema nodosum</li> <li>- Nail clubbing</li> <li>- Jaundice</li> </ul>				
<b>Abnormal laboratory findings</b> <ul style="list-style-type: none"> <li>- Anaemia panel (microcytic, normal or macrocytic)</li> <li>- Polycythaemia vera</li> <li>- Leucocytosis and leukopenia</li> <li>- Thrombocytosis and thrombocytopenia</li> <li>- Dissociated cholestasis</li> <li>- Acute phase reactants</li> <li>- Serum protein alterations</li> <li>- Acid/base balance disorders</li> <li>- Electrolyte alterations (Na, K, Ca)</li> <li>- Increased creatine kinase (CK)</li> <li>- Proteinuria</li> </ul>				

V.3) Competencies included in the specific training period of the specialty of Medical Oncology.

This document defines the specific competencies residents must acquire during their specialist curriculum and the appropriate instruments for evaluating their progress. Some competencies can be evaluated at different levels (cognitive and behavioural) and therefore can be evaluated with more than one instrument. A global evaluation system is included in section VI of this annex.

Competencies are grouped as follows:

V.3.1. Scientific principles of cancer and cancer prevention.

- Cancer biology
- Tumour immunology
- Screening and primary prevention
- Familial and hereditary cancer

V.3.2 Basic principles of cancer patient management.

- Comprehensive evaluation of cancer patients
- Essential symptomatic management of cancer patients

- Cancer emergencies
- Paraneoplastic syndromes
- Management of central venous lines
- Specific pharmacological cancer therapies
- Prevention and treatment of the adverse effects of cancer therapy
- Approach to cancer in elderly and frail patients

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V.3.3. Diagnostic and therapeutic approach to different types of tumours.

- Head and neck tumours
- Thoracic tumours
- Gastrointestinal tumours.
- Genitourinary tumours
- Gynaecological tumours
- Breast cancer
- Sarcoma
- Skin cancer
- Endocrine tumours
- Tumours of the central nervous system
- Cancer of unknown primary
- Haematological malignancies
- Tumours in adolescents and young adults

V.3.4. Clinical and translational research.

- Clinical trials
- Translational research

V.3.1. *Scientific principles of cancer and cancer prevention.*

V.3.1.1. Cancer biology

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Know the natural history of tumours and their possible causative agents.					Continuous, throughout the specific training period
Know the basic principles of molecular and cellular biology applied to cancer					
Know the main molecular biology techniques used in oncology					

V.3.1.2. Tumour immunology.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Know the mechanisms of humoral and cellular immunity and their interaction with cancer					Continuous, throughout the specific training period
Know the indications and toxicity profile of immunotherapy for cancer					

V.3.1.3 Screening and primary prevention

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Report epidemiological, familial and genetic factors related to cancer in the patient's medical history					Continuous, throughout the specific training period
Know the benefits and limitations of screening tests for the most prevalent tumours					

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#### V.3.1.4. Familial and hereditary cancer

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Know the indications for genetic testing, hereditary syndromes and the role of prophylactic interventions					Continuous, throughout the specific training period
Refer the patient to the Genetic Counselling Unit when indicated					

#### V.3.2. Basic principles of cancer patient management.

##### V.3.2.1. Comprehensive evaluation of the cancer patient.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Make a clear, detailed, legible report of the patient's cancer history					Continuous, throughout the specific training period
Prepare accurate and comprehensible diagnosis, prognosis and cancer treatment plans					
Indicate and interpret the results of the most common diagnostic techniques: histopathology, radiodiagnosis, endoscopy, and others					
Perform staging for different types of tumour					
Know the indications for surgery according to established resectability and operability criteria					
Prescribe systemic cancer therapy according to tumour stage and established predictive or prognostic factors, using the correct dosage and method of administration					
Prevent and treat the acute and late side effects of cancer therapy					
Know the indications for radiotherapy and its efficacy and toxicity					
Know the indications, risks and side effects of the different cancer therapies					
Know and indicate therapeutic alternatives in patients with comorbidities, and in frail and/or elderly patients					
Know the follow-up guidelines for cancer patients.					
Provide appropriate care to long-term survivors					
Apply response evaluation criteria to cancer therapy					

##### V.3.2.2. Essential symptomatic management of cancer patients.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Indicate the appropriate pain therapy based on the nature and severity of the pain and characteristics of the patient					Continuous, throughout the specific training period
Use validated scales to determine pain intensity					
Prevent and treat the specific adverse effects of pain therapy					
Evaluate the nutritional needs of the cancer patient					
Evaluate the rehabilitation needs of the cancer patient					

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Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Identify the social and psychological needs of cancer patients and their families					Continuous, throughout the specific training period
Plan and comprehensively treat chronic and end-of-life patients					

#### V.3.2.3. Cancer emergencies.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Diagnose and indicate the treatment for clinical situations in the cancer patient that require immediate intervention, including indications for admission to the intensive care unit					Continuous, throughout the specific training period

#### V.3.2.4. Paraneoplastic syndromes.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Diagnose and indicate the treatment of paraneoplastic syndromes					Continuous, throughout the specific training period

#### V.3.2.5. Management of central venous lines.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Know the indications for insertion or removal of central venous lines					Continuous, throughout the specific training period
Treat complications derived from venous lines					

#### V.3.2.6. Specific pharmacological treatment of cancer.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Know the clinical pharmacology of cancer drugs and associated interactions					Continuous, throughout the specific training period
Know the indications, effectiveness and risks of different cancer drugs					
Know the indications, complications and adverse effects of intensified and high-dose chemotherapy					
Know the mechanisms of intrinsic and acquired drug resistance and reversal strategies					
Prescribe cancer drugs, dosage and method of administration according to the requirements of each patient					

#### V.3.2.7. Prevention and treatment of the adverse effects of cancer therapy.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Prevent and treat the adverse effects of cancer drugs					Continuous, throughout the specific training period
Known the indications, mechanisms of action, interactions and adverse effects of supportive therapy in cancer					
Prescribe the appropriate supportive drugs (antiemesis, haematopoietic factors, etc.)					

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V.3.3. *Diagnostic and therapeutic approach to different types of tumours.*

V.3.3.1. Head and neck tumours.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Know the indications, risks and side effects of the different head and neck cancer therapies, based on tumour location and stage					8 weeks The time dedicated to these tumours can be shared with the time dedicated to other types of tumour
Prescribe systemic therapy in patients with head and neck tumours based on known prognostic and predictive factors, and prevent and treat the side effects of this therapy					
Prevent and treat specific side effects and complications					

V.3.3.2. Thoracic tumours: lung cancer, mesothelioma and other thoracic tumours.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Integrate the results of specific diagnostic techniques for staging and therapeutic planning (histopathology, molecular biology, EBUS, EUS, fibre optic bronchoscopy, mediastinoscopy, lung function tests)					16 weeks, full dedication
Know the indications for surgery, radiotherapy and systemic therapy in thoracic tumours, their effectiveness and side effects in the context of a multidisciplinary team					
Use systemic therapy on the basis of established predictive factors in non-small cell lung cancer					
Know the indications and side effects of prophylactic whole brain radiotherapy in small cell lung cancer.					
Treat the symptoms and complications of thoracic tumours					
Prescribe systemic therapy in patients with thoracic tumours based on known prognostic and predictive factors, and prevent and treat the side effects of this therapy					

V.3.3.3. Gastrointestinal tumours: oesophageal cancer, stomach cancer, colorectal cancer, rectal cancer, liver, pancreatic and bile duct cancer.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Integrate the results of specific diagnostic techniques for staging and therapeutic planning					16 weeks, full dedication
Know the indications for surgery, radiotherapy and systemic therapy for gastrointestinal tumours and their effectiveness and side effects, in the context of a multidisciplinary team					
Know the principles of standard rectal cancer surgery and the indication for neoadjuvant treatment					
Know the indications for surgery in metastatic disease					
Know the indications for and side effects of other locoregional therapies for the treatment of gastrointestinal and hepato-biliary tumours					
Indicate nutritional support in patients with gastrointestinal tumours					
Know the indications for liver transplantation					
Prescribe systemic therapy in patients with thoracic tumours based on known prognostic and predictive factors, and prevent and treat the side effects of this therapy					

V.3.3.4. Genitourinary tumours: kidney cancer, urothelial cancer, penile cancer, prostate cancer, testicular tumours.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Know the indications, risks and side effects of the different genitourinary cancer therapies, based on tumour location and stage					12 weeks The time dedicated to these tumours can be shared with the time dedicated to other types of tumour
Know and treat the toxicity associated with systemic genitourinary cancer therapies					
Know the indications for surgery, chemotherapy, radiotherapy or surveillance in testicular tumours					
Prescribe systemic therapy in patients with genitourinary tumours based on known prognostic and predictive factors, and prevent and treat the side effects of this therapy					

V.3.3.5. Gynaecological tumours:

V.3.3.5.1 Ovarian cancer, uterine cancer, cervical cancer, vulvar and vaginal cancer, gestational trophoblastic neoplasia.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Know the indications, risks and side effects of the different gynaecological cancer therapies, based on tumour location and stage					12 weeks The time dedicated to these tumours can be shared with the time dedicated to other types of tumour
Know the principles of standard ovarian cancer surgery and interval debulking surgery, and the indication for neoadjuvant treatment					
Prescribe systemic therapy in patients with gynaecological tumours based on known prognostic and predictive factors, and prevent and treat the side effects of this therapy					

V.3.3.6. Breast cancer.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Know the indications, risks and side effects of the different breast cancer therapies, based on tumour location and stage					16 weeks, full dedication
Know the indications for surgical treatment of breast cancer, conservative versus radical surgery, and the role of axillary dissection and breast reconstruction					
Prescribe systemic therapy in patients with breast cancer based on known prognostic and predictive factors, and prevent and treat the side effects of this therapy					

V.3.3.7. Sarcomas: soft tissue sarcoma, bone sarcoma, gastrointestinal stromal tumours (GIST).

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Know the principles of and indications for surgical treatment, radiotherapy and systemic therapies for sarcomas in a multidisciplinary context					8 weeks The time dedicated to these tumours can be shared with the time dedicated to other types of tumour
Prescribe systemic therapy based on known prognostic and predictive factors, and prevent and treat the side effects of this therapy					

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V.3.3.8. Skin cancer: melanoma, squamous cell carcinoma and basalioma.



Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Know the principles of and indications for surgery, radiotherapy and systemic therapy for skin cancer and melanoma					8 weeks The time dedicated to these tumours can be shared with the time dedicated to other types of tumour
Prescribe systemic therapy in patients with skin cancer and melanoma based on known prognostic and predictive factors, and prevent and treat the side effects of this therapy					

V.3.3.9. Endocrine tumours: thyroid cancer, neuroendocrine tumours, adrenal carcinoma.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Know the principles of and indications for surgery, radiotherapy and systemic therapy for endocrine tumours					6 weeks The time dedicated to these tumours can be shared with the time dedicated to other types of tumour
Prescribe systemic therapy in patients with endocrine tumours based on known prognostic and predictive factors, and prevent and treat the side effects of this therapy					

V.3.3.10. Tumours of the central nervous system.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Know the principles of and indications for surgery, radiotherapy and systemic therapy for tumours of the central nervous system					6 weeks The time dedicated to these tumours can be shared with the time dedicated to other types of tumour
Prescribe systemic therapy in patients with tumours of the central nervous system based on known prognostic and predictive factors, and prevent and treat the side effects of this therapy					

V.3.3.11. Cancer of unknown primary

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Integrate the results of specific diagnostic techniques for staging and therapeutic planning (PET-CT, immunohistochemistry) in a multidisciplinary context					Continuous, throughout the specific training period The time dedicated to these tumours can be shared with the time dedicated to other types of tumour
Prescribe systemic therapy in patients with cancer of unknown primary based on known prognostic and predictive factors, and prevent and treat the side effects of this therapy					

V.3.3.12. Haematological malignancies: leukaemia, lymphoma, multiple myeloma

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Prescribe systemic therapy in patients with haematological malignancies based on known prognostic and predictive factors, and prevent and treat the side effects of this therapy					8 weeks Full dedication
Know the classification and staging technique					

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V.3.3.13. Tumours in adolescents and young adults.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Know the most common malignancies in this age group					Continuous, throughout the specific training period The time dedicated to these tumours can be shared with the time dedicated to other types of tumour
Know the risk of infertility and its prevention					
Know the long-term toxicities and risk of second malignancies					

V.3.4. *Clinical and translational research.*

V.3.4.1. Clinical trials.

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Know the methodology of clinical research in oncology					Continuous, throughout the specific training period
Participate in clinical cancer research activities					
Critically interpret findings of statistical analyses reported in oncology research papers					

Evidence in the Resident's Log Book:

- 1 Summary and reflection on a research project in oncology in which the resident has participated.
- 1 oral communication accepted.
- 1 article accepted in a scientific journal.

V.3.4.2. Translational research

Competence	Evaluation instruments				Minimum duration and dedication (weeks)
	A	B	C	D	
Know the main histopathological and molecular biology techniques and the technology platforms used in oncological translational research					12 weeks
Acquire specific training in new drug development units					

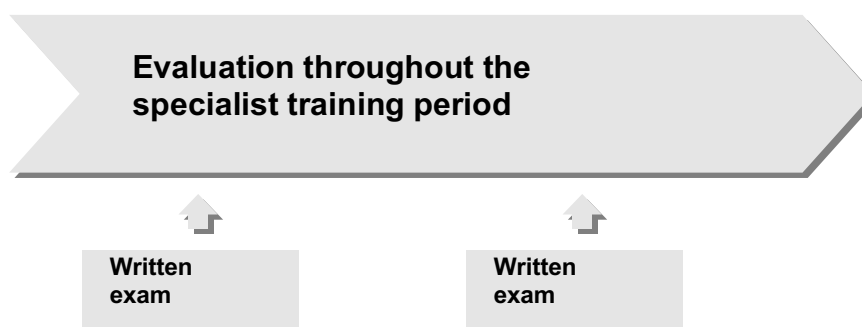
*V.1 Competency-based assessment*

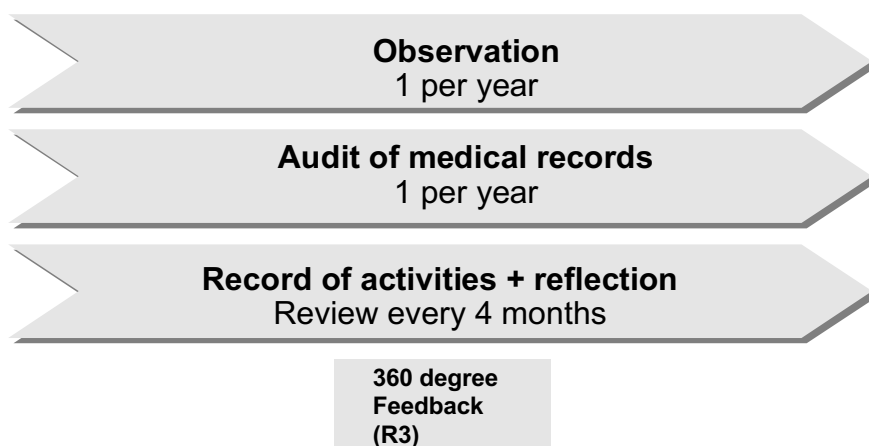
In order to assess the learning process and the acquisition of competence as an ongoing process in the training of Medical Oncology residents, competency-based assessments must be carried out at the end of each rotation, following the procedure approved by the teaching committee of each teaching unit. This assessment will include an evaluation of all the competencies included in the specialty (generic, core and specific) using the instruments recommended for each competence. The results of the assessment must be recorded in the Resident's Log Book, and will be used in the tutor-resident interviews to assess the resident's achievements and deficits and establish improvement measures. These assessments will ensure that residents achieve the minimum level of competence required for clinical practice, pursuant to the social responsibility principles of each teaching unit. The final decision to award the title of Medical Oncologist should be based on the official guidelines of the "assessment programme" approved by each teaching unit.

The competencies defined in this training programme will be assessed by mean of the following instruments, bearing in mind that a particular instrument can be used to assess generic, core and specific competencies:

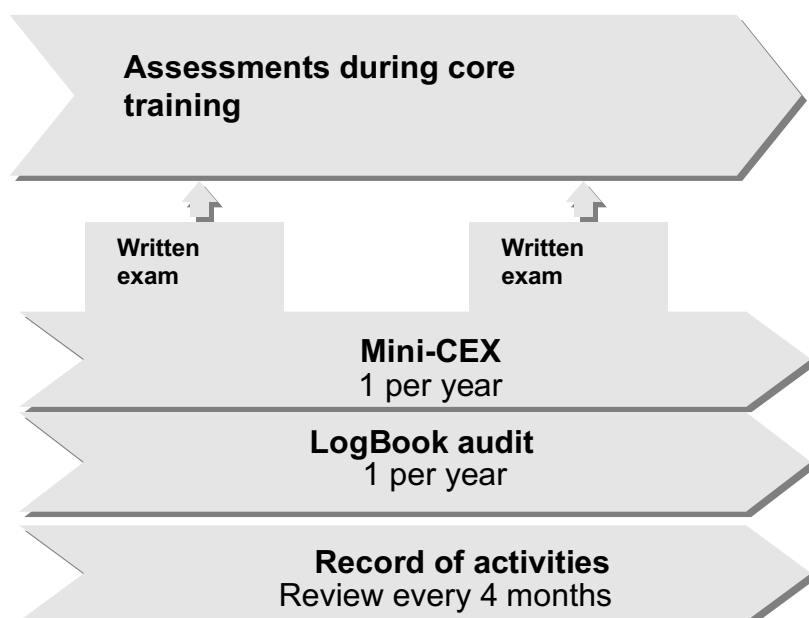
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VI.1) Generic competencies



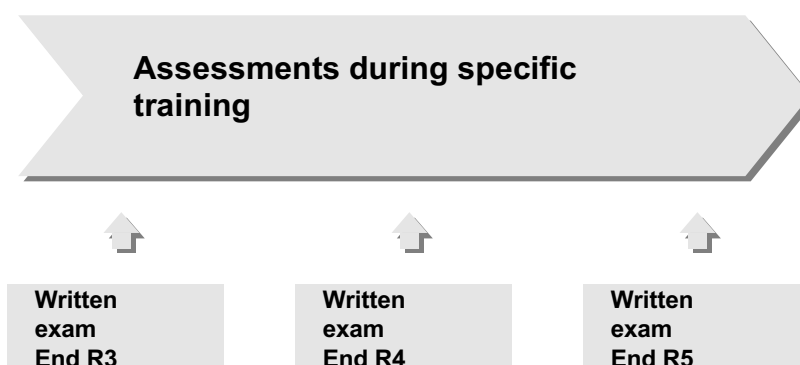


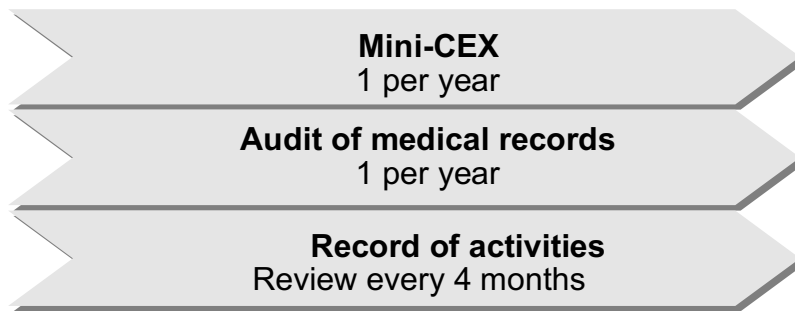
VI.2) Core training competencies



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VI.3) Competencies included in the specific Medical Oncology training period





#### VI. *Care procedures or processes*

During the training period, residents must demonstrate that they can correctly perform at least 2,500 documented care procedures or processes involving diagnosis, prognosis, treatment and monitoring of different types of cancer, with special emphasis on decision-making and prescription of cancer drugs.

The recommended minimums are:

- a) breast cancer: 550.
- b) gastrointestinal cancer: 550.
- c) lung cancer, mesothelioma and other thoracic tumours: 550.
- d) genitourinary cancer: (kidney, urothelium, prostate, urethra, penis, testicle): 350.
- e) gynaecological cancer (vagina, vulva, cervix, endometrium, ovary, gestational trophoblastic neoplasia): 150.
- f) tumours of the central nervous system: 50.
- g) sarcomas and GIST: 50.
- h) head and neck tumours: 50.
- i) skin cancer and melanoma: 50.
- j) endocrine cancer: 50.
- k) Cancer of uncertain primary: 50.
- l) haematological malignancies: 50.

#### VII. *Competency-based evaluation instruments*

##### A) Written exams

In this section, the following instruments are considered more suitable: Multiple choice questions (MCQ) and Script Concordance Test (SCT). These instruments can be used to evaluate the following competencies:

- a. Abstract knowledge.
- b. Contextualized knowledge.

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- c. Clinical reasoning.
- d. Decision making.

In MCQs, clinical vignettes should be used whenever appropriate. Given the limited experience in the use of MCQs, this instrument should only be used to assess highly complex clinical reasoning.

##### B) Observation

In this section, the best approach is the clinical evaluation exercise (Mini-CEX), because it allows a series of agreed indicators to be used to evaluate professional activities that could otherwise be interpreted subjectively. The instruments can be used to evaluate the following competencies:

- a. Clinical interview.
- b. Physical examination.
- c. Professionalism.
- d. Clinical judgement.

- e. Communication skills
- f. Organization and efficiency.

Some professional activities can be evaluated by direct, unstructured observation, either because they cannot be interpreted subjectively, or because the low prevalence of a particular pathology makes it unlikely to be encountered by the resident during the core training period.

Finally, competencies related to infrequent professional activities or those that can put the patient at risk can be evaluated using simulations.

#### C) Audit of clinical records.

This involves analysing the quality of the records generated by the resident, based on the assumption that the actions recorded reflect the actions performed. The audit compares the resident's records against a set of pre-established indicators and quality standards, and can be carried out by the resident (self-audit), another resident (peer review) or the tutor or delegated staff member. This instrument can be used to evaluate the following competencies:

- a. clinical decision making.
- b. patient follow-up.
- c. follow-up of preventive strategies.
- d. adequate use of resources (complementary tests, medications, inter-departmental consultation, etc.).

#### D) Resident's log book and portfolio (Record of activities + reflection).

The Resident's Log Book is a record of the activities carried out by the resident throughout their training period, and contains both quantitative and qualitative data that show the learning process. The activity log can be used to ensure the resident has learnt specific techniques and procedures, and must include the date of completion and the approval of the tutor or delegated staff member.

The portfolio is more than a mere activity log. It contains a more or less systematic record of elements that show the learning process or level of competence achieved over a particular period of time. It is based on preestablished objectives, and accompanied by a process of reflection, which is a pre-requisite for the portfolio.

In addition to providing evidence of certain competencies, the record of activities in the Resident's Log Book combined with the reflections consigned to the portfolio is also useful for:

- a. developing essential strategies, attitudes, skills, and cognitive processes needed for life-long learning.
- b. stimulating the use of reflexive strategies.
- c. developing critical thinking.
- d. encouraging self-directed learning in clinical practice.

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The Resident's Log Book can also be used to document the results obtained from assessment instruments and activities: activity records, the results of written exams, approval obtained in clinical evaluation exercises, the results of the clinical records audit and of the 360 degree feedback.

This instrument should be used primarily for training purposes.

#### E) 360 degree feedback

The 360 Degree Feedback gathers information from different sources in the residents' workplace to evaluate various aspects of the resident's activity. Information is usually gathered from nurses, other health professionals, other residents, doctors, departmental heads, hospital administrative staff, and patients. It also often includes a self-assessment. This instrument can be used to evaluate the following competencies:

- a. teamwork.

- b. communication and interpersonal relationships.
  - c. quality of resource management.
  - d. professionalism.
  - e. patient and family counselling and education.
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I, JENNIFER GRAY, member n° 024876 of the Chartered Institute of Linguists, competent to translate from Spanish to English, hereby declare that the above translation has been executed by me and is, to the best of my professional knowledge and belief, a true and faithful rendering of the Spanish original.

In Malaga, 20 February 2020

Signed:

A handwritten signature in purple ink, appearing to read 'J. Gray', is written over the signature line.

Jennifer Gray