



## Description of Legal and Forensic Medicine as a Medical Specialty in the EU

### Aims and Objectives for Specialist Training

**Submission to the *Union Européenne des Médecins Spécialistes* by the Executive Board of the *European Council of Legal Medicine (ECLM)*, for and on behalf of the *European Council of Legal Medicine*, following approval of the Document by the Delegates of the Member States of the *ECLM* (EU ad EFTA countries, see: [www.eclm.org](http://www.eclm.org))**

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### 1. Specialty Profile

Legal and Forensic Medicine is the application of medical knowledge and methodology for the resolution of legal questions and problems for individuals and society. It involves the observation, documentation, collection, assessment, and scientific interpretation of medical evidence deriving from clinical and post mortem investigations required for the different fields of law, including criminal, civil, work, family, and administrative. Its core activities are Clinical Forensic Medicine and Forensic Pathology, but other areas of science and expertise including forensic toxicology, forensic psychiatry, forensic genetics, forensic anthropology may be required depending on the nature of the case.

Legal and Forensic Medicine requires specific skills to be applied in accordance with the various legal frameworks. It may need to determine not only the diagnosis (the what) but also to clarify and specify the circumstances which surround any event or incident (the who, why, when, where, and how).

In order to achieve these goals, a unique combination of medical, forensic and legal knowledge is required which presupposes certain unique principles fundamental to the achievement of elucidating and presenting evidence to demonstrate facts and truth to the required standard of proof within the justice system.

### 2. Entry Criteria for the Specialisation

Entry criteria to Legal and Forensic Medicine may vary from country to country, but usually include a specific period of general medical training followed by specialty training. Some countries may define a minimum training period, competencies and knowledge. The trainee in legal and forensic medicine must have core theoretical and applied knowledge in a number of fields.



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### 3. Core Competencies and Knowledge

#### 3A. Clinical Forensic Medicine

A substantial part of Clinical Forensic Medicine includes assessing and interpreting injury caused by all means including physical, chemical, mechanical, thermal and other related causes. Mass disasters often involve multiple casualties where multiple types of injury may be present. In addition to the medical diagnoses and treatment of such conditions, a number of forensically orientated questions need to be addressed, sometimes even prior to the institution of appropriate treatment such as:

- the nature of the injury: weapons and/or mechanisms involved and when the injury occurred
- the mode of occurrence: accidental, self-harm or due to assault
- the legal implications of diagnoses and potential sequelae e.g. non-accidental injury, intentional self-injury, torture.

All these topics involve important decisions directly connected with the primary diagnosis or the differential diagnosis. The forensic specialist must give expert and definitive opinions for consideration by the appropriate legal authorities.

Areas of Clinical Forensic Medicine include:

1. assessment of acute and chronic injuries to the person, its forensic documentation, sampling of evidence and evaluation of the degree of injury severity, including:
  - a. neglect, non-accidental injury, medical criterion for evaluation, legal and social protection system, and institutions for the protection and safeguarding of vulnerable adults and children protection and safeguarding;
  - b. neglect, non-accidental injury, intimate partner violence, elder abuse; inter-personal violence
  - c. abuse (physical, sexual and emotional) and/or torture of individuals and human rights infringement;
  - d. sexual offences, genital and extragenital findings;
  - e. accidents, intentional self-injury (including suicide) and homicides;





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2. abortion and peripartum complications, including definitions, legal and illegal conditions and methods;
3. assisted and artificial methods or reproduction and medico-legal implications;
4. forensic genetics and clinically related implications, including personal and paternity identifications;
5. mental illness, mental capacity and criminal responsibility;
6. acute/chronic substance misuse intoxication and dependence; alcohol/drugs driving; alcohol/drugs in the workplace; doping/antidoping; alcohol and drugs and criminal responsibility; classification and definitions of xenobiotics of forensic interest; pharmacodynamics and pharmacokinetics, interactions, adverse and behavioural reactions, findings and interpretation in living and deceased persons.

**3B. Thanatology (study of death)**

- deaths with definitions and criteria for determination of different modes of death, agonal phenomena, types of death, cadaveric (post-mortem) changes, signs of death, tissue death, brain-death
- external examination of the deceased, procedure, determination of the circumstances of death, changes associated with unnatural death, certification of the mode and cause of death, implications for society and the individual
- legal nature and possession of the corpse, legal pre-requisites for autopsy and for collecting diagnostic, therapeutic and teaching material/samples

**3C. Forensic Pathology / Forensic Traumatology**

- legal definitions and causalities, especially related to homicides, suicides and accidents
- general forensic pathology especially the principles of patho-mechanics, intra-vital reactions, principles of special laboratory investigations
- blunt force trauma, lesions to skin, bones, internal organs, soft tissues and their mode of occurrence
- sharp force trauma; types of lesions especially regarding mechanism of injury





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- ballistic injury including gunshot and other firearm wounds; explosive injury; physical parameters relevant to these types of injury and the medical sequelae; evidence recovery
- the pathophysiology of mechanical asphyxia, suffocation, mechanisms of death, findings on external examination, strangulation and its subvarieties, other types of suffocation
- drowning; causes of drowning, diagnosis of drowning; manner of death and differential diagnoses
- road traffic collisions and other transportation incidents, mechanisms and patterns of injury, biomechanics and principles of accident reconstruction from the medical findings
- other causes of injury including: thermal, electrical, physical, irradiation, explosion
- sudden unexpected deaths in adults and children, causes of death, medico-legal differential diagnoses
- occupational diseases and industrial accidents

Familiarity with injury patterns as related to specific incidents should enable a distinction to be made between self-inflicted, accidental, second-party inflicted and natural disease both in the living person and in the deceased.

### ***3D. Medical Law, Ethics and Related Jurisprudence***

This includes:

- authorisation to practice medicine, legal framework of practice, fitness to practice, patient's rights
- application of therapeutics, authorisation for prescribing, limitations and prohibitions, duties of treatment, euthanasia
- consent to treatment, informed consent and its limitations to invasive diagnostic and therapeutic procedures relevant to the civil and criminal systems, legal prerequisites, limitations and exceptions
- problems regarding minors, the unconscious patient; the patient without capacity; the mentally disordered; those with learning difficulties
- disease notification



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- medical liability, especially relative to the civil and criminal systems, guidance on evidence, medical negligence, medical malpractice
- medical duties in emergencies, legal demands, assessment of testamentary capability
- professional confidentiality, data protection relative to the civil and penal codes; employers and social institutions; access to records, exceptions, confidentiality with relatives, the State, and the Courts
- provision of legally valid, competent and precise certification and reports to State authorities, the Courts, private bodies and institutions, and to the patient as an individual
- clinical treatment trials, responsibilities in human medical or therapeutic experimentation.

### 4. Developed and Advanced Knowledge, Experience and Skills

Following direct and adequately supervised participation at a specialised department of Legal and Forensic Medicine, with an established post-graduate teaching commitment, the specialist in Legal and Forensic Medicine should produce documented evidence of the acquisition of the broad knowledge, experience and expertise in medico-legal matters. Once proficiency has been achieved it would be incumbent on the specialist to participate in continuing professional development.

The following items form the basis of the advanced general professional level which can then be followed by further specialisation in one or several, but not necessarily all subfields.

- Personal attendance at suspicious deaths and crime scenes to assist and take an active part in the multi-professional teamwork required for on-site investigations, for the preservation and collection of evidence, documentation of the scene as well as for reconstruction of the incident. Familiarity with external and internal *post-mortem* changes, including putrefaction, interference by animal predators, skeletalisation, are also required.
- Knowledge of medico-legal criminalistics, particularly the detection, collection and preservation of all trace evidential material, the sampling of stains and of body fluids, and the performance of immediate "presumptive" *in situ* tests.
- Proficiency in the methods by which a detailed external examination of the deceased should be carried out, including methods of assessing the "post-mortem interval".



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- Knowledge and experience in ordinary forensic autopsy techniques, including specialised *post-mortem* forensic investigative procedures, a sound knowledge of forensic pathology and a basic knowledge of diagnostic clinical pathology: these are required for the elucidation of causes and manner of death in cases ranging over all age groups, including children, and over a wide spectrum of manners of natural and non-natural death, to include homicide, suicides and fatal accidents.
- Knowledge and experience in microscopic examination of pathological material from a wide spectrum of natural and non-natural conditions, including specialised histological techniques, and immunohistochemical and molecular biological methods, such as the differentiation of intravital infliction of injury.
- Knowledge and experience in medical examination and detailed description and assessment of injuries and their sequelae on both living and deceased persons throughout the age spectrum, including cases of abuse (e.g. sexual abuse, posttraumatic stress disorder, torture), accidental or self-inflicted trauma, that would enable a full evaluation of such aspects of direct legal interest as to their method of infliction, possible causation, circumstances, consequences, and complications.
- Knowledge of and experience in forensic imaging as a tool for examination on both living and deceased persons.
- Knowledge of intoxication mechanisms, and the clinical, laboratory evaluation, and interpretation of the degree of intoxication in the living and the dead.
- Knowledge and familiarity with sampling requirements, with investigative laboratory techniques to include their discriminatory value, and their margins of error, and with the interpretation of scientific analytical reports in the context of all other relevant findings in the case.
- Knowledge of forensic genetic principles including disputed paternity and investigation of biological stains.
- Knowledge of and experience in proficiency in identification procedures and methods to include elements of forensic anthropology and odontology, and in the procedures to be followed after a major incident.
- Knowledge of and experience in familiarity with medico-legal aspects of fitness in certain skills, duties and legal procedures which are subject to detailed legal provisions including the medicolegal assessment and examination of persons in detention (such as fitness for custody, for interview, to plead, to drive, etc.).
- Knowledge and familiarity with the forensic aspects of physical and mental health.



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- Knowledge of the legal status of the medical expert, of the laws of evidence and of the legal consequences of medical actions.
- Knowledge of and proficiency in the preparation of authoritative medico-legal reports to the relevant authorities, describing in detail the findings and results of any examinations carried out and including a full and pertinent commentary which provides balanced scientific opinion and conclusions.

## 5. Other Professional Aspects of the Specialist Training Programme

### 5A. Maintenance of Good and Competent Medical Practice

- Develop knowledge and practice in the specialty by a commitment to lifelong learning through continuing professional development and attendance at relevant courses and conferences
- The use of evidence-based medicine and undertaking of specialty practice audit
- To understand and adhere to law and procedures and duties of confidentiality, data protection and consent

### 5B. Management Skills and Training

- Understanding the role of other specialties in the context of the development of multidisciplinary team working and leadership skills with participation in departmental activities related to organisational planning and service management skills
- Knowledge of relevant information technology

### 5C. Education and Teaching

- A specialist must be involved in teaching healthcare students at undergraduate, graduate and postgraduate levels
- Involvement in education of the general population and relevant government departments and organisations

### 5D. Quality Assurance



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- The agreed curriculum for the training period should follow any national regulations in the absence of which a written agreed curriculum should be set up as a contract between the specialist trainee and supervisor. Such curricula must be competency based.
- Assessment and certification should be in accordance with any nationally provided procedures and a mechanism for continuous assessment of specialist trainees against agreed quality standards should be in place.
- Within the timeframe for specialist training, all trainees should maintain a logbook recording clinical experience, laboratory experience, reporting and court experience, professional development activities, research and publications

## 6. Clinical and Basic Research

The specialty of Legal and Forensic Medicine has a rapidly changing knowledge base. During specialty training the trainee should participate in both clinical and basic research and should both understand and practice the principles and practicalities required for such scholarly activity. An intensive period of research leading to a higher academic degree or qualification may be included. The period for such intensive research should be in accordance with any national guidelines.

## 7. Timeframe for Specialist Training

- According to the UEMS charter on training the duration of training of medical specialist must be sufficient to ensure training for independent practice of the specialty after the completion of training.
- The training period should be a minimum of 4 years full-time work.
- An educational training programme needs to be agreed for each specialist trainee according to the specialty specific curriculum chosen.
- The time spent and the practical experience gained in laboratory work may vary between countries but must be sufficient to ensure highly specialised knowledge.

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