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SPECIAL ARTICLE

The specialty in Legal and Forensic Medicine from the Teaching Unit of Zaragoza: Internal organization and particularities ☆



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Abstract The figure of the internship doctor (MIR) in Legal and Forensic Medicine was born in 2022, after the abolition of the specialty as a school-based formula (2014) and the modification of access to the National Corps of Forensic Doctors due to the necessity of a specialist degree (2015, 2020). This led to the definitive accreditation, in 2022, of the first teaching units in the Institute of Legal Medicine and Forensic Science, being one of them Zaragoza. This article explains basic characteristics of this unit and its peculiarities, in which the close link between the intern routine and the forensic activity since the beginning of the training period, and the different levels of responsibility acquired, approved by the High Court of Justice of Aragon, stand out. The main difficulties encountered during these years, as well as the future challenges to be faced and possible solutions are also presented.

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PALABRAS CLAVE

Especialidad médica;
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La especialidad de Medicina Legal y Forense desde la Unidad Docente de Zaragoza: organización interna y particularidades

Resumen La figura del médico interno residente (MIR) de medicina legal y forense nace en el año 2022, tras la supresión de la especialidad en régimen de alumnado (2014) y la modificación del acceso al Cuerpo Nacional de Médicos Forenses, con la exigencia del título de especialista (2015 y 2020). Esto llevó a la acreditación definitiva en 2022 de las unidades docentes en los institutos de medicina legal y ciencias forenses, siendo una de ellas la de Zaragoza. En este

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artículo, se exponen las características fundamentales y particularidades de esta unidad, destacando la estrecha vinculación del residente con la actividad forense desde el inicio de la formación y los distintos niveles de responsabilidad adquirida, aprobados por el Tribunal Superior de Justicia de Aragón. También se exponen las principales dificultades encontradas durante los primeros años de experiencia, así como los retos futuros a afrontar y sus posibles soluciones.

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Introduction

The role of the forensic physician is one of the little-known medical specialties, despite playing a fundamental role in resolving the medical-biological problems posed by law, both in the practical application of the law and in its improvement and evolution.¹

Forensic physicians are career civil servants serving the Administration of Justice as a special corps. They report organically to the Institutes of Legal Medicine and Forensic Sciences (IMLCF for its initials in Spanish) and provide technical assistance to Courts, Tribunals, Prosecutors' Offices, and Civil Registry Offices in matters related to their professional discipline.²

Access to the National Corps of Forensic Physicians (CNMF for its initials in Spanish) was established through a selective open-access competitive examination system, requiring a degree in medicine. However, Organic Law 7/2015, of July 21, which amended Organic Law 6/1985, of July 1, on the Judiciary,³ introduced a substantial change in admission by requiring that, in addition to holding a bachelor's degree, candidates must also hold the title of Specialist in Forensic Medicine.

The Specialty in Legal and Forensic Medicine (EMLF for its initials in Spanish) in Spain was founded by Pere Mata in 1843, when he included it as an individualised discipline in the studies of Medicine and Surgery.⁴ From 1984 to 2014, it was structured as a student-based programme, forming part of a three-year training programme in teaching units (professional schools of medical specialisation or university departments).

However, in 2014, Royal Decree 639/2014 of July 25,⁵ determined that, starting with the 2015 selection process, no more places would be offered in this specialty, among others, under the student system, and it was therefore abolished.

A period of discussion began henceforth, culminating in the preparation of a technical document by the Scientific Technical Committee of the Forensic Medical Council,⁶ emphasising the need for an EMLF developed via the MIR (Member Resident Internship) programme that would involve the IMLCF (Institutional Training Institute) and offer cross-disciplinary training to ensure the quality of the CNMF.

This led to the approval of the aforementioned Organic Law 7/2015, of July 21,³ which modified access to the CNMF. Thus, in 2020, the EMLF was equated with other medical specialties, being incorporated into the Catalogue of Specialties in Health Sciences (RD 704/2020, of July 28).⁷ However, it was not until 2022 that a specific training programme was

developed and published, similar to the rest of the specialties, but tailored to the requirements of forensic medicine.

From this moment on, a four-year training period begins, during which resident physicians are trained with skills that encompass not only the knowledge specific to forensic medicine, but also a wide variety of clinical knowledge that allows them to increase their understanding of issues arising from healthcare practice, bioethical conflicts, or the treatment of complex diseases.

Possession of a specialist qualification will not be a mandatory requirement until the Ministry of Justice so determines, once at least the first cohort of these specialists complete their training through the residency system.⁷ Similarly, an update to the competitive examination system is planned to mirror that of other medical specialties.

Currently, we are at a transitional stage, with the first generations of specialist physicians training through the MIR system and access to the CNMF without the need for this qualification.

This article aims to present the experience and organisation of the EMLF in the Zaragoza Teaching Unit in relation to the Official Specialty Programme (POE for its initials in Spanish) so that it may serve as an example and support for current and future teaching units, as well as for future physicians interested in the field.

Educational programme in the Legal and Forensic Medicine specialty

The National EMLF Commission developed the Official Specialty Programme (POE), which is reflected in Order PCM/997/2022, of October 18.⁸

To date, 14 of the 36 IMLCFs in Spain have been accredited, representing 41% of the total, and a total of 45 places have been offered (8 places in 2022, 8 in 2023, 12 in 2024, and 17 in 2025).⁴

This training programme stipulates that, to acquire the necessary skills, a series of specific rotations must be completed (Table 1), distributed over the four years of training.

Regarding the acquisition of skills related to urgent illnesses with special medicolegal consequences (such as those that generate injury reports), during the first year, residents will perform on-call shifts in hospital emergency rooms or continuing care centres, as well as a minimum of two on-call shifts/continuing care per month at IMLCFs starting in the second year of training.⁸

Table 1 Comparison of the rotation organisation of the Official Specialty Programme (POE) and the Zaragoza Teaching Unit.

POE rotations	Months (min-max)	Zaragoza Teaching Unit rotations	Months
R1			
IMLCF	1	IMLCF of Aragon (Zaragoza sub-delegation)	1
Orthopaedic Surgery and Traumatology	1–3	Orthopaedic Surgery and Traumatology (MAZ Hospital)	2
Rehabilitation	Rehabilitation (MAZ Hospital)		
Radio diagnosis	1	Radio diagnosis (HNSG)	1
Paediatrics and its Specific Areas	1	Paediatric Emergency Department (HUMS)	1
Psychiatry/Child and Adolescent Psychiatry	2–4	Short-Stay Psychiatric Unit, Personality Disorders Unit, Child and Adolescent Unit (HRV), Project Hombre	2
Family and community medicine/internal medicine	1–3	Family and community medicine (La Jota Health Centre)	1
Pathological anatomy	1–2	Pathological anatomy (HNSG)	1
Medical units of the provincial INSS offices or equivalent services/occupational disease units of collaborating mutual social security insurance companies/hospital occupational risk prevention services	1	MAZ Assessment Unit and Biomechanics Unit (MAZ Hospital)	1
Disability assessment and guidance teams	0–1	Neurosurgery (MAZ Hospital)	1
		General Emergency Department (HNSG)	1
R2			
Obstetrics and Gynaecology	1	Obstetrics and Gynaecology (HUMS)	1
Legal and Forensic Psychiatry (criminal, civil and others)	9	Legal and Forensic Psychiatry (Criminal, Civil, External Resources) (IMLCF Zaragoza Sub-Delegation)	9
R3			
Forensic Pathology	6	Forensic Pathology and Forensic Anthropology (IMLCF Zaragoza Sub-Delegation)	6
Forensic laboratory	1	Forensic Laboratory (Toxicology, Forensic Anthropology, Criminalistics, Histopathology, and Genetics)	5
Toxicology	4		
Others (Histopathology, Biology, Criminalistics)			
R4			
Forensic medical clinic	Assessment of bodily injury 6 Comprehensive Forensic Assessment Unit (UVFI) and Sexual Violence 2 Minor Forensic Medicine 1	Forensic Medicine Clinic (IMLCF Zaragoza Sub-Delegation)	9
Elective rotation	2	Elective rotation	2

HNSG: Hospital Nuestra Señora de Gracia; HRV: Hospital Royo Villanova; HUMS: Hospital Universitario Miguel Servet; IMLCF: Institute of Legal Medicine and Forensic Sciences; INSS: National Social Security Institute; MAZ: Accident Mutual Fund of Zaragoza.

The specialty in the Institute of Legal Medicine and Forensic Sciences of Aragon (IMLCF for its initials in Spanish)

The resident physician in the Institute of Legal Medicine and Forensic Science

The incorporation of the resident physician into the IMLCF has been a novelty for both forensic physicians and the staff assigned to the IMLCF. With this, and based on Royal Decree

144/2023 of February 28, teaching committees have been created in those institutes accredited as teaching units.

The widespread awareness of the need for change in forensic and forensic medicine has fostered an ideal teaching environment in this field, viewing the resident as a future guarantee for the survival of the body and the profession, although not all staff perceive this equally.

In Zaragoza, in line with the POE and the characteristics of its internal organisation, the relationship between the forensic physician and the resident has been close on a daily basis. This close relationship is not only apparent with tutors and teaching

collaborators but also with the head of studies and other IMLCF managers, together with other professionals assigned to the Institute, such as psychologists and social workers. This relationship is made possible during the first year thanks to the established on-call system, discussed below.

Shift organisation

The Zaragoza Teaching Unit, accredited in 2021, currently houses three resident physicians (R1, R2, and R3) and has offered a new position in the 2025⁹ call for specific healthcare training tests.

This unit is linked, in compliance with the POE, to the Aragonese Health Service, with the Royo Villanova Hospital (HRV) as the reference hospital. However, for the full development of resident training, agreements have been established with other accredited units such as the Zaragoza Accident Mutual Hospital (MAZ) and the Miguel Servet University Hospital (HUMS).

In addition to fulfilling the required rotations, this unit adds others considered necessary and complementary for cross-disciplinary training and the quality practice of future professional activity. Rotations in the emergency department, personality disorders unit, and neurosurgery are thus added (Table 1).

The agreements established with other hospitals, as well as the organisation of the rotations, have been tailored to the specifics of the specialty, seeking cases directly related to the professional practice of forensic medicine. Thus, the emergency department rotation is conducted at Nuestra Señora de Gracia Hospital (HNSG) for the assessment of detained individuals seeking medical assistance, and the trauma, neurosurgery, and assessment and rehabilitation unit rotations are conducted at MAZ Hospital for the assessment of injuries resulting from traffic accidents and work-related contingencies.

The second year focuses on the development of forensic psychiatry in its criminal (imputability, capacity to testify, etc.), civil (involuntary commitments and disability support measures), and other areas (artículo mortis).

During this year, the resident remains at the IMLCF and the Duty Court, working alongside forensic physicians, psychologists, and social workers assigned to the IMLCF. In addition, this teaching unit has assessed the possibility of attending external psychiatric resources such as prison hospitals or drug addiction care and follow-up units.

Likewise, during this second year, a rotation takes place in the gynaecology and obstetrics service, during which the resident addresses major gynaecological emergencies, including the assessment of sexual assault, assisting in births, and performing assisted reproduction techniques.

The third year is divided into two periods: forensic pathology, developed at the IMLCF; and forensic laboratory, carried out at the National Institute of Toxicology and Forensic Sciences (INTCF). This second period, in turn, is subdivided into different rotations, as established in POE,⁸ which this teaching unit cannot yet assess since none of its residents have yet reached this training phase.

As for the fourth and final year of residency, at the IMLCF in Aragon, it is expected to continue according to the official programme.

On-call duties and increasing responsibility

Another special feature of this unit is the on-call duty at the IMLCF starting in the first year of residency, which is complemented by in-person on-call duty.

In order not to jeopardise their on-call training, the complementary shifts are structured into afternoon "Court Duty" of 6 h, from Monday to Friday, and "Court and Pathology Duty" of 12 h + 6 h at weekends for the performance of autopsies. These shifts are supplemented, when the characteristics of the hospital service allow, with 17–24 h hospital on-call shifts in the service in which the resident is rotating.

In services such as pathology or rehabilitation, where in-person on-call shifts are not provided, the resident therefore completes the total on-call hours established (approximately 4 hospital on-call shifts) at the IMLCF, which amounts to approximately 6 "Court On-Calls" and 2 "Court and Pathology On-Calls" in total.

In contrast, in services such as traumatology or psychiatry, 3–4 hospital on-call shifts are provided monthly, with a minimum of 2. If the minimum number of established hours is not reached, the resident completes the shift with court on-call shifts.

This structure allows the resident to combine their healthcare training, the main objective of this first year, with the development of their specialty, maintaining continuous and close contact with their workplace, and thereby acquiring specific competencies and skills. Beginning in the second year, on-call shifts are similar to those for other forensic doctors, with three to six 24 h shifts per month.

The EMLF resident's work has not only been a change in healthcare but also in the administration of justice, as a previously unfamiliar figure has emerged. Thus, many bureaucratic inconveniences have been encountered, partly due to a lack of knowledge among administrative staff.

To solve this problem, the teaching unit made the specialty, the training plan, its objectives, and the resident's own work known to the judicial authorities, developing a plan of increasing responsibility comparable to the training system for professional judges and other medical specialties.¹⁰ This plan differentiates three levels of autonomy (Table 2):

Level 0. First-year resident. The resident is present at all types of forensic activities at the IMLCF and occasionally attends the activities of the on-call investigating courts, unless otherwise determined by the investigating judge. Their role is to observe and learn; therefore, they do not participate in the preparation of forensic or expert documents.

Level 1. Second-year resident. The resident performs forensic activities, always supervised by a responsible forensic physician, and prepares simple, jointly signed reports.

Level 2. Third- and fourth-year resident. Residents carry out their activities quasi-autonomously, always having access to a registered forensic physician for consultation, either in person or locally, and may even be called to the oral hearing.

This plan was proposed by the teaching unit and approved by the Governing Chamber of the Superior Court of Justice (TSJ) of Aragon, where it was made known to the judges and

Table 2 Levels of autonomy of the resident intern.

Level of autonomy	Characteristics
<i>Level 0: first-year resident physician</i>	Partial direct and indirect action The resident physician is present at the forensic activity, but does not sign related forensic legal documents
<i>Level 1: second-year resident physician</i>	Partial direct and supervised action The resident physician participates, along with the forensic physician responsible for training, in conducting both the examination and preparing the forensic report, with both of them signing it.
<i>Level 2: third- and fourth-year resident physician</i>	Shared expert report with supervision The resident physician is independent in preparing expert reports, with the final supervision of everything that happened by the training forensic physician. Both physicians sign the expert report.

magistrates of this community, and their collaboration was requested for the optimal development of these activities.

Role of the legal and forensic medical resident physician in the hospital

Numerous ethical conflicts are known to arise in clinical care. These conflicts which have increased in recent years due to scientific and technological advances and the growing participation of users in healthcare¹¹ represent a significant source of concern for clinicians.

Against this backdrop, and based on our experience, we have found there to be enormous interest among physicians in our specialty who consider the presence of the resident as an opportunity for a two-way exchange of concepts.

As a result, clinical sessions have been held on the completion of medical and forensic documents, with review of ethical conflicts raised during real clinical cases, and recommendations on action protocols.

The EMLF resident is therefore regarded as a new point of collaboration for both attending physicians and residents, as a reference for resolving medical-legal conflicts in their healthcare work.

This will increase the ethical awareness of the new generations and bring together medical care and forensic medicine, the latter long perceived as an unusual way of practicing medicine.

Teaching unit: Assessment and research activity

The resident's training assessment is based on three key elements: (1) continuous supervision by the mentor with

frequent meetings thanks to the on-call system and daily work at the IMLCF; (2) rotation evaluation reports; and (3) the annual Resident's Book, which records all activities during the rotation year.

Over the years, the teaching unit has provided its residents with the opportunity to participate in active research projects at the IMLCF, as well as to initiate their own lines of research. Currently, there are several research projects entirely designed by the resident physicians and assisted by the teaching unit and the IMLCF management.

In addition, the resident physicians have participated as teaching members in numerous forensic training courses for other professionals (doctors, lawyers, police officers, etc.).

Regarding the annual and final evaluation, this is carried out by the evaluation committee based on the mentor's annual report, which includes the rotations completed, complementary activities (publications, posters, course attendance, session speakers), and the grade. The results, so far in our unit, have been satisfactory, both for residents and staff members.

Today's and tomorrow's challenges

Currently, many issues remain unresolved, as we find ourselves in a structurally new specialty where training and organisational plans are forged with the experience of residents and teaching units. As previously mentioned, during the third year of residency, the POE establishes two training periods: Forensic Pathology and Forensic Laboratory.⁸

The Forensic Laboratory linked to the Administration of Justice is the National Institute of Toxicology and Forensic Sciences, with offices in Madrid, Barcelona, and Seville.

This would entail the resident's geographical mobility for five months. While it is true that this type of rotation is considered in other specialties, we believe that, due to its duration and associated characteristics, it should be mentioned.

This unit is working on alternatives to reduce the impact of this period on the resident's life. Some of these options include the search for external teaching facilities accredited for forensic use and located in the region; additional financial assistance; and the creation of agreements with other IMLCFs for on-call duty, as well as with other teaching units for specific mandatory rotations. However, to date, this issue remains uncertain and is one of the major concerns.

Conclusions

The adoption of the EMLF residency system has led to a complete transformation of the specialty as it was known, requiring its structure to be consolidated from the teaching units through the experience of the residents.

The Zaragoza Teaching Unit has prioritised the resident's ongoing contact with forensic medicine through an on-call system during their first year. This allows them not only to combine hospital training with specific training in the specialty but also to strengthen ties with primary care medicine and their workplace.

Similarly, the organisation of rotations, as well as the unit-associated centres, has been established in accordance with the characteristics and specific caseloads of forensic

medicine. Thus, rotations have been added to the emergency department, personality disorders unit, biomechanics unit, and neurosurgery service. Agreements have also been established with private insurance-run hospitals.

Furthermore, a plan for increasing resident responsibility has been developed and announced and approved by the Governing Chamber of the TSJ of Aragon.

The unit has also facilitated participation and development of research projects, as well as the organisation of external rotations.

Currently, residents face several unresolved issues, making them a priority for the teaching unit, with solutions being sought.

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Conflict of interests

The authors have no conflict of interests to declare.

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