European Paediatric Neurology Society Training Advisory Board
Report number 14

Evaluation of The Paediatric Neurology Training in Spain, 27-28 October 2025

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Approved by the Training Advisory Board:
Chair: Dilek Yalnızoğlu
CNA delegates: Anne-Marie Childs**,** Agnese Suppiej, Monica Vasconcelos
EPNS Education and Training Committee delegate: Dana Craiu
EPNS President: Kevin Rostasy
EPNS Secretary: Rob Forsyth

Recommendations

We remain supportive of the Spanish paediatric neurologists represented by the Spanish Paediatric Neurology Society (Sociedad Española Neurología Pediátrica-SENEP) in their endeavours to receive official recognition of Paediatric Neurology (PN) as a (sub)speciality in Spain.

The Spanish PN curriculum is already based on the European Syllabus, as previously documented at the first TAB visit in 2012. However, care should be taken to enable more than 2 years of training in PN upon completion of background training in either paediatrics or neurology. This training duration will provide adequate rotations for trainees coming from both paediatrics and neurology, and additional time for other PN areas.

Currently there exists two pathways for PN training with similar content; a national programme would be expected to be in place once PN is officially accepted as a (sub)speciality.

Introduction

In 2002, PN was accepted at the European level as a subspecialty of both paediatrics and neurology. In the process of defining the speciality, a European Paediatric Neurology Training Programme (Syllabus) was constructed and accepted by the European Paediatric Neurology Society (EPNS) and the national PN societies represented in the Committee of National Advisors (CNA) as well as the European Union of Medical Specialists (UEMS) sections for paediatrics and neurology. The syllabus was revised in 2009 and 2019, and approved by the General Board of the EPNS and the EPNS CNA.

In 2004, the EPNS Board and the CNA established a Training Advisory Board (TAB) and built a training evaluation programme aiming to support national societies in developing their training systems. The goal is to set a standard of training in accordance with the Syllabus in European countries. The TAB includes the CNA Executive Committee and delagates from the EPNS' Education and Training Committee, including its chair. The president and secretary of the EPNS are also represented. The TAB is chaired by the chairperson of the CNA.

Since 2007, 13 countries were visited by EPNS TAB including Spain back in 2012. So far, Spain is the only country with two TAB visits more than 10 years apart.

SENEP, through its presidency, requested an evaluation of the child neurology training programme in Spain and initiated a TAB visit in October 2024. This invitation enabled re-evaluation of PN training in Spain for a second time after the initial TAB visit in 2012.

Visit Organization

Pre-visit evaluation documents were sent to Spanish hosts before the visit. The completed pre-visit evaluation documents from Hospital de la Paz, Hospital 12 de Octubre, Hospital Infantile Universitari Vall d'Hebron and Hospital Sant Joan de Deu are provided as attachments to this report.

The TAB visit to Spain took part in 27-28 October 2025 by Dilek Yalnızoğlu, Dana Craiu and Kevin Rostasy.

Training Advisory Board team and hosts agreed to visit two main cities with major training centers as recommended by SENEP, Madrid and Barcelona. Information was obtained from the presentations at site and from discussions with participants to the meetings including residents in training.

On 27 October 2025, the TAB team visited Hospital Gregorio Maroñon in Madrid, and met the President of SENEP, Marcos Madruga, and colleagues. Presentations came from Marcos Madrugo, and from representatives of Hospital Gregorio Maroñon, Hospital 12 de Octubre Hospital Niño Jesus and Hospital de la Paz as below:

Hospital Gregorio Marañón
- María Concepción Miranda Herrero
- María Vázquez López

Hospital 12 de Octubre
- Ana Camacho Salas

Hospital Niño Jesús
- Fernando Martín del Valle

Hospital La Paz
- Julián Lara Herguedas

On 28 October 2025, the TAB team was hosted at Sant Juan de Déu Barcelona Children's Hospital and Hospital Infantile Universitari Vall d'Hebron in Barcelona by colleagues as below:

Hospital Sant Joan de Déu
- Carmen Fons Estupiñá
- Darío Ortigoza
- Andrés Nascimento
- Mercedes Serrano

Hospital Vall d'Hebron
- Alfons Macaya Ruiz
- Mireia del Toro
- Belén Pérez Dueñas

At all centers we met programme directors, staff members, and PN trainees.

Paediatric Neurology Training

SENEP was founded in 1993, and currently has more than 600 members, of whom 351 are actively practicing paediatric neurologists, others are residents in training or other professionals with interest in PN. In order to make the voice of PN heard, SENEP has joined Spanish Brain Council, the Control Z Platform (Plataforma Control Z), and is in the proces of collaboration agreement with the Royal Academy of Medicine.

Paediatric Neurology in Spain is not officially recognized as a separate speciality, nor as a subspeciality of paediatrics/neurology. SENEP provides certification in PN and defines the training requirements which is based on the EPNS Syllabus.

Training in PN follows upon completion of training in paediatrics or neurology, each with 4 years of training. However, entry from neurology has been decreasing over the years and minority of trainees enter from neurology. Similarly, minority of PN centers are under neurology units.

Currently there are 42 SENEP-accredited centers across Spain which are high or intermediate complexity hospitals. Fully accredited centers offer comprehensive PN training while some centers have partial accreditation for specific rotations.

Main requirements for acredited teaching centers are presence of sufficient number of experienced paediatric neurologists, where one supervisor per trainee is required. For a center to be recognized as a qualified PN training unit, it must contain critical departments including neurosurgery, neuroradiology, neurophysiology, child and adolescent psychiatry and rehabilitation.

The duration of PN training programme is 2 years. There are two distinct pathways of PN training with similar content. First pathway is defined as 4+1, where the first year of PN

training is merged with the final year of paediatric residency to include electives focused on PN. Upon completion of the paediatric residency with 4th year dedicated to PN, the trainees go on to complete an additional 5th year, i.e. the 2nd year of PN training. As PN is not a recognized (sub)speciality the trainees receive support through SENEP as scholarships in the 5th year. Otherwise they may work at other positions as paediatricians/medical doctors with paid time, and support their education themselves. Because these young medical specialists do not have a formal relationship with the hospitals, in the second year of training they are considered formally as students, all their actions and prescriptions need to be signed off on by a staff member or a physician of the hospital.

The heart of the training programme is supervised clinical practice on both acute and chronic neurological conditions through inpatient care, emergency department, neonatal and paediatric intensive care units, as well as outpatient clinics. Exposure to subspecialities are required including epilepsy, neuromuscular diseases, movement disorders, infectious and inflammatory diseases of the central nervous system, and metabolic disorders, developmental neurology and neurogenetics.

Training structure for both background specialities of paediatrics and neurology are organised as neurology inpatient ward rotation for paediatricians, and paediatric inpatient ward rotation for neurologists, each lasting for 2 months. Mandatory rotations in other major specialities are child and adolescent psychiatry, neuroimaging, neurophysiology, neuropathology, while genetics and rehabilitation are optional rotations, each with 1-2 month duration. In centers where rehabilitation is an optional rotation, it still remains as an integral part of the training on a daily base patient care.

Theoretical component of the education is conducted by courses, seminars, lectures, journal clubs, and self-study. Theoretical part of the programme encourages trainees to take part in research studies with a mentor, as well as taking part in SENEP protocols, publications, attending national and international meetings. PN trainees also have a role in supervision of junior residents and medical students.

The PN training programme is powered by several activities for participation of trainees including Stroke Code and Seizure Code Implementation, CUIDAME Programme and Registry (Spanish medical registry and database for patients with 5q Spinal Muscular Atrophy), clinical trials and scientific publications, multidisciplinary sessions and transition to adult care, webinars and quarterly meetings of SENEP Working Groups and GJNP (Grupo de Jóvenes Neuropediatras).

A senior PN tutor is assigned for each trainee at the beginning of training who monitors progress throughout the training and certifies completion of each module, and guides in aspects regarding research and clinical sessions. In addition, a senior physician is responsible for supervision of each rotation and works along with the tutor. Eventually, a portfolio documents competencies and training experiences of each PN trainee without patient-

identifiable data. There is no exit examination at the end of the programme. Some training centers also offer postgraduate and doctoral studies, and relavent research opportunites.

The second pathway for PN training is a Master Degree Programme adopted at centers in Barcelona. In addition to formal students, the programme at Sant Joan de Deu Barcelona Children's Hospital, accepts visiting clinical fellows and residents from Europe, Spain, and Latin America which integrates national and international postgraduate programmes. The Master programmes in Barcelona are connected to the University of Barcelona and the Universidad Autónoma de Barcelona.

Master Degree programmes accept fully trained paediatricians and offers a postgraduate training of 2 years. The 24 month rotation scheme provides exposure to inpatient wards, paediatric and emergency room consultations and rotations at PN subspecialities. The time spent at inpatient wards and consultations together constitute almost one third of the programme. Rotations at epilepsy, neurophysiology, fetal-neonatal neurology and neurodisability, neuroimmunology, neurogenetics, neuro-oncology, movement disorders, neuromuscular disorders, neurometabolic diseases rotations are mandatory, ranging from 1-4 months. Optional rotations are child and adolescent psychiatry and neuro-ophtalmology.

Personalized academic mentoring and supervision is provided throughout the programme.

Theoretical component includes formal teaching classes by senior neurologists with interactive case-based learning. Ward meetings with clinical case discussions, telemedicine sessions with Latin American centers are part of eduational programme.

At the end of the programme each student completes a research project integrated into ongoing studies under the supervision of a mentor. There is no exit examination.

All training centers represented during the TAB visit are tertiary hospitals which care for a wide spectrum of complex neurological diseases of childhood. The training programmes are equipped with experienced physicians, as well as experts and authors in different subspecialities in child neurology. The teaching staff and hospital infrastructure are capable of patient care and training in PN subspecialities beyond speciality training in PN. The diagnostic and treatment capacity of the centers are sophisticated and lead diverse research studies. These centers have partnership with European Reference Network (ERN) across a variety of areas including ERN for Rare Neurological Diseases (ERN- RND), ERN for Hereditary Metbolic Disorders (MetabERN), ERN for Neuromuscular Diseases (EURO-NMD), ERN for malformation syndromes and rare intellectual and neurodevelopmental disorders (ERN-ITHACA), ERN for all rare and complex epilepsies (EpiCARE). Of note, other centers gained European recognition along with the centers represented during the visit via ERNs; Hospital Virgen del Rocío, Hospital Ramón y Cajal, Hospital Cruces, Hospital Clínico Universitario Santiago de Compostela, Hospital La Fe and Hospital Del Mar.

In addition to annual national meetings, SENEP will be hosting EPNS Meeting in 6-10 April 2027, in Barcelona, Spain, further emphasizing European recognition of the national society. The third EPNS Exam will also take place in Barcelona during this meeting.

Conclusions and Comments

In view of the EPNS Syllabus, PN training requires a minumum of 5 years duration in order to allow aquisition of adequate competencies, while it is expected that overall duration of training may differ between countries.

In Spain, PN training follows training in either paediatrics or neurology. Regarding the EPNS general peadiatrics training module, the paediatricians who enter the PN training already fulfill the required baseline training of 2-3 years in paediatrics as they complete the third year of training in paediatrics and continue fourth year with rotations in PN.

Adult neurology exposure is included as 2 months rotation for paediatricians in the second year of the training. According to the Syllabus, the minumum training in adult neurology is recommended as '6 months or equivalent' based on competency training. Inclusion of a mandatory adult neurology rotation is considered a critical step towards EPNS syllabus requirements.

Neurologists who enter PN training, similarly have 2 months of paediatrics rotation and their adult neurology rotation is waived. However, this duration of paediatrics rotation does not match the recommended background training in paediatrics before entry to PN -which is a minumum of 2 years. This training module may be revised by SENEP going forward to achieve a standard for entry from neurology.

Peadiatric neurology training module is recommended to be more than 2 years of an overall 5-year training. The PN programme in Spain is strictly limited to 2 years. Of note, special fields mentioned in the Syllabus such as neuroimaging, neurophysiology, neurometabolic diseases, neuropathology, neurogenetics, neurorehabilitation, paediatric and neonatal intensive care, epilepsy, child and adolescent neuropsychiatry, are all incorporated to PN training. However, care should be taken to enable more than 2 years of training in PN upon completion of background training in paediatrics or neurology.

Regarding Master Degree programmes in Barcelona, fully trained paediatricians are accepted as postgraduate students, therefore the programme fulfills the required background paediatric training which is 2-3 years. The 2-year Master programme includes rotations in accordance with the Syllabus, however lacks training in adult neurology module.

Research is highly encouraged in PN (4+1) residency programme, where as it is mandatory for Master Degree students. Both pathways provide tutoring and supervised research. Some centers offer postgraduate studies and doctoral thesis, along with a broad spectrum of clinical and basic science research opportunities.

Continued medical education for PN specialists is conducted via national, international congresses, educational activities of national and international PN societies. Exit examination and re-certification are not required.

Establishing a PN training programme as an extention of paediatric residency and creating a Master Degree programme dedicated to PN have been practical solutions for Spanish paediatric neurologists with eloquent clinical and research outcomes over the years. Furthermore, these programmes undoubtedly have served towards an enormous improvement of PN in the country with dedicated staff and highly developed centers.

A national programme would be expected to be in place once PN is officially accepted as a (sub)speciality. Recognition of PN as a (sub)speciality may resolve several issues that paediatric neurologists face today such as paid time during training, and specialized working time merit. Similarly, duration of training modules may be adjusted in accordance with the Syllabus and national priorities going forward.

As subspecialities under paediatrics are not recognized, trainees may not find a position compatible with their profession after graduation and may be employed in another subspeciality of paediatrics depending on needs, this is valid across all paediatric subspecialities including PN. It would be important for newly qualified paediatric neurologists to continue to develop their skills and knowledge base in clinical practice with the support of an experienced paediatric neurologist and multidiciplinary team.

Core Competencies

1. A long standing and thriving national PN society with a robust PN training programme is the major competency. In addition, the national PN society, SENEP, provides certification of paediatric neurologists and accredition of training centers which are a crucial steps for maintaining standard of training and patient care.
2. Training centers are high/intermediate complexity hospitals. Trainees are well exposed to PN subspecialities, up-to-date and advanced diagnostic tools, and therapies as well as diverse research studies.
3. Training centers have structured PN programs with a broad spectrum of excellent PN subspeciality programmes. Furhermore, they are well established and highly published research centers.
4. Compared to the previous visit in 2012, current PN programmes show remarkable improvement with respect to tutoring and involving trainees in research.

5. Compared to the previous visit in 2012, current programme includes child and adolescent psychiatry, neurodisability is included in the curriculum either as a mandatory rotation or integrated to the training programme as part of day to day patient management.

Growth areas

1.Paediatric Neurology in Spain is not a recognized (sub)speciality which poses several issues during training period and employment after graduation. Subsequently, this may be reflected on the care of children with neurological disorders, and has the risk for creating increased burden for health system.
2.Duration of training modules require adjustment in accordance with the Syllabus.

Recommendations

We remain supportive of the Spanish paediatric neurologists represented by the Spanish Paediatric Neurology Society (Sociedad Española Neurología Pediátrica-SENEP) in their endeavours to receive official recognition of Paediatric Neurology (PN) as a (sub)speciality in Spain.

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Feedback

A feedback-report to the TAB is expected from SENEP within a year addressing both core competensies and growth areas of PN training programme, and current situation of PN in Spain.

Ankara/Bucharest/Cologne 2026
Dilek Yalnızoğlu/ Dana Craiu/Kevin Rostasy

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