



European Survey of Training and Practice in Clinical Neurophysiology, 2011-12

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The survey had 5 parts:



- 1. Status of specialty and training in member country (32 questions)**
- 2. Competency and accreditation (3 questions)**
- 3. Training for Technicians (4 questions)**
- 4. Practice and Finance (15 questions)**
- 5. Opportunities and Threats (4 questions)**

The presentation gives the main findings and has been agreed by the members of the EC-IFCN ExCo.

There were 34 responses, though not all question were answered by all.

Status of specialty and training



(between brackets: number of countries relative to those providing data)

Clinical Neurophysiology a separate specialty in 36% countries (12/33)

Training is Board certified in 60% (19/32)

General internal medicine training is required in 46% (11/24) and for most is for 1 year.

Training to get certification is for:

1 year	17%
2 years	25%
3 years	17%
4 years	21%
5 years	21% (n=28)

Half had national training (54% of n=31)

Where CN is a monospecialty, most do neurology for 1 year (73%, 8/11)

Where CN is part of neurology, then neurology is done for 4-5 years (81%, 17/21)



How do we examine our trainees?

Exit exam 54% (n=30)

Multiple choice questionnaire 94%

practical skills 73% (n=15)

Run by:

University 63%

Medical College 13%

Society 34% (n=16)

No exam, competency judged by:

Log book 54%

Practical skills 77% (n=13)

Competency assessed:

Own consultant 62%

Other consultants 23% (n =13)



How many tests do trainees do?

EMG

<250	26%
250-500	26%
500-750	37%
>750	11% (n=21)

EEG

<250	22%
250-500	22%
500-750	30%
>750	34% (n=21)

More complex cases taught through a variety of ways.

Size of clinical neurophysiology by country.



Number of consultants per country (monospecialty status)

<50	27%
50-100	36%
>100	36% n = 11

Number of consultants active in neurophysiology within neurology

<100	63%
100-200	16%
200-500	11%
>500	11% n = 19

Trainees

<10	36%
10-20	39%
>20	25% n = 26

(42% have regional variations in training)



Do we have academic posts; do we fill our jobs?

Negative points

45% of countries have **NO** academic or scientific jobs in the specialty (n=31)

In 20% of countries medical students have **NO** exposure to specialty (n=30)

Training posts are **not always filled** in 58% (n=28) and consultant posts in 39% (n=28)

Positive points

There is a legal requirement for training in some aspects of the subject, e.g. brain death diagnosis in 53% (n=30).

Our continuing competency to practise



Continuing education:

64% no requirement

In those with it: 36% run by Society

16% by medical college (n=31)

Revalidation:

64% none

20% every 3 years or more, (most through national body) (n=25)

Departmental accreditation

71% had none (n=31)



Training Technicians.

Most are neurophysiology only (71%) (N=28), but many train as nurses first (38% n=29).

Training is for	<2 years 56%
	2-4 years 41% (n=27)

Exit is via:

national training programme	33%
exam national body	44%
exam university	30% (n=27)

Once qualified 22% have statutory regulation (n=27).



How are we paid for tests?

Tests are paid by;

block contracts	35%
national tariff	41%
local tariff	35% (n=29)

Finance by:

national scheme	63%
private	7%
work insurance	3%
mix	40% (n=30)

Availability of Tests in Countries: EEG



EEG routine in all departments.

	routine (%)	centres (%)
polysomnography	24	76
video telemetry	10	83
ambulatory	30	67
presurgical VT		83
electrocorticography		73
surface/depth records		80
		n = 28-30

The figures for routine and centre do not add up to 100%, because some tests are not done by all countries.

Availability of Tests in Countries: EMG



NCS/EMG routine in all departments bar 1.

	routine	centres (%)
Single fibre	24	72
macro	10	73
quantitative MUP	34	66
quantitative interference	33	66
high density analysis		60

n = 28-30

The figures for routine and centre do not add up to 100%, because some tests are not done by all countries.



Availability of Tests in Countries: EPs

	routine	centres (%)
VEPs	70	30
ERG	5	95
BSAEPs	62	38
SEPs	70	30
IoM spinal cord	3	96
MEPs spinal cord	3	93
IoM cranial nerves		87

n = 28-30

The figures for routine and centre do not add up to 100%, because some tests are not done by all countries.



Availability of Tests in Countries: Other

	routine	centres (%)
Laser EP		51
TMS	27	70
tDCS		67
Thermal thresholds	10	74
Microneurography		63
MEG		38

n= 28-30

The figures for routine and centre do not add up to 100%, because some tests are not done by all countries.



Who does the work?

Neurologists/Clinical Neurophysiologists report all EEGs. In no country do technicians do this (n=30).

In 53% countries technicians do nerve conduction but in only 4% do they report them (n=30, n=28). In two countries technicians can do EMG but do not report them.

Intra-operative monitoring is done by technicians in 43% but reported by them in only 7% (n=30)



Waits.

NCS (EMG)

4-8 weeks 63%

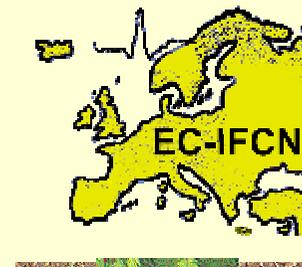
8-16 weeks 35%

EMG

<6 weeks 43%

6-18 weeks 36%

>18 weeks 21% (n=28)



Glass half full; opportunities in the foreseeable future.

Training	78%
Equipment	71%
Staffing	35%
Workload	17%
quality and guidelines	83% (n=23)



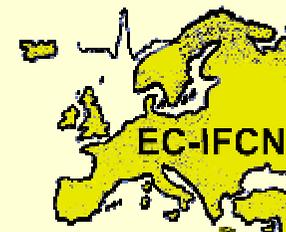
Glass half empty; threats perceived to

Training	6%
Staffing	35%
Equipment	12%
Skill mix	24%
Workload	77% (n=17)

	Routinely in most depts	In specialist centres only	Not performed in the country	Countries
<i>EEG</i>	100.0% (30)	0.0% (0)	0.0% (0)	30
<i>NCS</i>	96.7% (29)	3.3% (1)	0.0% (0)	30
<i>EMG</i>	96.7% (29)	3.3% (1)	0.0% (0)	30
<i>EEG with polysomnography</i>	23.3% (7)	76.7% (23)	0.0% (0)	30
<i>Visual Evoked Potentials</i>	70.0% (21)	30.0% (9)	0.0% (0)	30
<i>Electroretinograms</i>	6.7% (2)	96.7% (29)	0.0% (0)	30
<i>Brain Stem Auditory Evoked Potentials</i>	62.1% (18)	37.9% (11)	0.0% (0)	29
<i>Somatosensory Evoked Potentials</i>	70.0% (21)	30.0% (9)	0.0% (0)	30
<i>Intraoperative monitoring of spinal cord evoked potentials</i>	3.4% (1)	96.6% (28)	0.0% (0)	29
<i>Motor evoked potentials for intraoperative monitoring</i>	3.3% (1)	93.3% (28)	3.3% (1)	30
<i>Intraoperative monitoring of cranial nerves</i>	0.0% (0)	86.7% (26)	13.3% (4)	30
<i>Single Fibre EMG</i>	24.1% (7)	72.4% (21)	3.4% (1)	29
<i>Macro EMG</i>	10.0% (3)	73.3% (22)	16.7% (5)	30

	Routinely in most depts	In specialist centres only	Not performed in the country	Countries
<i>Quantitative MUP EMG</i>	34.5% (10)	65.5% (19)	0.0% (0)	29
<i>Quantitative interference pattern analysis</i>	33.3% (10)	66.7% (20)	0.0% (0)	30
<i>High density surface EMG</i>	0.0% (0)	60.0% (18)	40.0% (12)	30
<i>Threshold tracking</i>	0.0% (0)	64.3% (18)	35.7% (10)	28
<i>Ultrasound</i>	30.0% (9)	43.3% (13)	30.0% (9)	30
<i>Transcranial Magnetic Stimulation</i>	26.7% (8)	70.0% (21)	3.3% (1)	30
<i>Transcranial DC Stimulation</i>	0.0% (0)	66.7% (20)	33.3% (10)	30
<i>Videotelemetry</i>	10.0% (3)	83.3% (25)	6.7% (2)	30
<i>Ambulatory EEG</i>	30.0% (9)	66.7% (20)	3.3% (1)	30
<i>Presurgical videotelemetry</i>	0.0% (0)	83.3% (25)	16.7% (5)	30
<i>Electrocorticography</i>	0.0% (0)	73.3% (22)	26.7% (8)	30
<i>Surface and depth EEG recordings</i>	0.0% (0)	80.0% (24)	20.0% (6)	30
<i>Thermal Threshold testing</i>	10.0% (3)	73.3% (22)	16.7% (5)	30
<i>Laser Evoked Potentials</i>	0.0% (0)	51.7% (15)	48.3% (14)	29
<i>Microneurography</i>	0.0% (0)	63.3% (19)	36.7% (11)	30
<i>Magnetoencephalography</i>	0.0% (0)	37.9% (11)	62.1% (18)	

Some final comments & perspectives



In the light of the preceding results, the European Chapter recommends:

- To promote Clinical Neurophysiology as a *visible discipline*, recognised as such in most European countries and as a separate medical speciality in 40% of them
- To distinguish *different European modes of access* to the practice of CN, as a function of its level of recognition in different countries;
- To encourage the setting of *minimum standards* to ensure that practitioners of CN are adequately trained, whatever the status of the discipline in their country, and
- To *collaborate with the UEMS** in establishing different “core curricula” setting these standards, to ensure adequate training in countries with and without a separate speciality.

* *European Union of Medical Specialists, <http://www.uems.net/>*

All these data are available via SurveyMonkey:

ClinicalNeurophysiologyEuropeanChapter

password clineuphy.

http://www.surveymonkey.net/MySurvey_Responses.aspx?sm=X15sUUctY9cIt0YfRsNtYrI1W2acUvocao3pwE4BTtIG1NDKvJNBTED5pL408h