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European Training Requirements for Neuroendocrine Neoplasia Medicine

European Standards of Postgraduate Medical Competency Training

Preamble

The UEMS is a non-governmental organization representing national associations of medical specialists at the European Level. With a current membership of 34 national associations and operating through 39 Specialist Sections and European Boards, the UEMS is committed to promote the free movement of medical specialists across Europe while ensuring the highest level of training which will pave the way to the improvement of quality of care for the benefit of all European citizens. The UEMS areas of expertise notably encompass Continuing Medical Education, Post Graduate Training and Quality Assurance. It is the UEMS' conviction that the quality of medical care and expertise is directly linked to the quality of training provided to the medical professionals. Therefore, the UEMS committed itself to contribute to the improvement of medical training at the European level through the development of European Standards in the different medical disciplines. No matter where doctors are trained, they should have at least the same core competencies. In 1994, the UEMS adopted its Charter on Post Graduate Training aiming at providing the recommendations at the European level for good medical training. Made up of six chapters, this Charter set the basis for the European approach in the field of Post Graduate Training. With five chapters being common to all competencies, this Charter provided a sixth chapter, known as "Chapter 6", that each Specialist Section was to complete according to the specific needs of their discipline. More than a decade after the introduction of this Charter, the UEMS Specialist Sections and European Boards have continued working on developing these European Standards in Medical training that reflects modern medical practice and current scientific findings.
In doing so, the UEMS Specialist Sections and European Boards did not aimed to supersede the National Authorities' competence in defining the content of postgraduate training in their own State but rather to complement these and ensure that high quality training is provided across Europe. At the European level, the legal mechanism ensuring the free movement of doctors through the recognition of their qualifications was established back in the 1970s by the European Union. Sectorial Directives were adopted, and one Directive addressed specifically the issue of medical Training at the European level. However, in 2005, the European Commission proposed to the European Parliament and Council to have a unique legal framework for the recognition of the Professional Qualifications to facilitate and

improve the mobility of all workers throughout Europe. This Directive 2005/36/EC established the mechanism of automatic mutual recognition of qualifications for medical doctors according to training requirements within all Member States; this is based on the length of training in the specialty and the title of qualification. Given the long-standing experience of UEMS Specialist Sections and European Boards on the one hand and the European legal framework enabling Medical Specialists and Trainees to move from one country to another on the other hand, the UEMS is uniquely in position to provide competency and specialty based recommendations. The UEMS values professional competence as "the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served". While professional activity is regulated by national law in EU Member States, it is the UEMS understanding that it must comply with International treaties and UN declarations on Human Rights as well as the WMA International Code of Medical Ethics. This document derives from the previous Chapter 6 of the Training Charter and provides definitions of specialist competencies and procedures as well as how to document and assess them. For the sake of transparency and coherence, it has been renamed as "Training Requirements for the Competency of X". This document aims to provide the basic Training Requirements for each competency and should be regularly updated by UEMS Specialist Sections and European Boards (ENETS) to reflect scientific and medical progress. The three-part structure of this documents reflects the UEMS approach to have a coherent pragmatic document not only for medical specialists but also for decision-makers at the National and European level interested in knowing more about medical specialist training.

This document supports the role of UEMS in setting Standards in the field of PGT, ref to Charter on PGT. It was approved by the UEMS Specialist Section and the European Neuroendocrine Tumor Society at the UEMS Council meeting in XY, on XY 2020. This Document is designed to harmonize training programs in Neuroendocrine Neoplasia Medicine between different European countries.

Introduction

In 2004, the European Neuroendocrine Tumor Society (ENETS) was founded by a group of European medical specialists in the field of neuroendocrine neoplasia. The society members, currently numbering nearly 1,200, bring a variety of expertise from such fields as oncology, surgery, pathology, radiology, nuclear medicine, endocrinology, and gastroenterology to ENETS. The main goal of the society since then has been to integrate basic and clinical research with teaching and to establish guidelines for the diagnosis and therapy of gastro-entero-pancreatic neuroendocrine neoplasia (NEN). A further role of ENETS is to critically appraise the available evidence and therewith facilitate the transfer of knowledge to the clinicians and advise these clinicians on the best treatment for their patients.

In 2018 - 2019, as an initiative of ENETS that two of the ENETS Advisory Board members, Andrea Frilling and Andreas Pascher, the General Secretary of the UEMS, Vasilios Papalois, and the President of Multidisciplinary Joint Committee (MJC) of Rare and Undiagnosed Diseases (RUD) of UEMS, Bela

Melegh, signed a MoU, then meet in London, UK. According to the general UEMS viewpoints about the Multidisciplinary Joint Committees, a primary aim of them is to certify the highest standards of education for physicians and other learners in order to promote patient safety, they aim to advance the science of clinical education, training, and assessment in a multidisciplinary manner in sections with mutual interest on the field of the MJC. The MJC aims to create a system of support for the delivery of state-of-the-art clinical skills training within the European Union (EU) and EU affiliated countries in the UEMS area. The ENETS and the MJC RUD collaborated then is development of this ETR, which ultimately aims to create a system of support for the delivery of state-of-the-art clinical skills training within the European Union (EU) and EU affiliated countries in the UEMS area.

I. Training requirements for trainees

1. Content of training and learning outcome

a. Theoretical knowledge:

Curriculum

Requirements for training:

- Medical profession
- Fellowship or equivalent in competency
- Logbook
- ENETS membership
- Clinical training:

- Minimum of 2 years of continuous clinical work in NEN care after fellowship in ENETS Centers of Excellence or equivalent institution according to the training requirements for training institutions (see III.)
- Regular active participation in dedicated NEN tumour boards (minimum number of 100; as to be proven in logbook)
- Active involvement in design and conduction of therapeutic pathways according to individual needs (minimum number of 100; as to be proven in logbook)
  During the course of the training program classical methodologies will be applied. These include but are not limited to: lectures, seminars, bed side teaching, case reports, case

scenario discussions, journal clubs, e-learning, webinars, computer assisted, self-instruction modules, problem-based learning, team-based learning, simulation etc.

Requirements for application for examination:

- ENETS member in good standing
- Recommendation by trainer
- Completed and signed logbook
- Participation in one postgraduate course per year (@ENETS congress)
- Attendance at national NEN symposium / registry meeting
- Participation or organization of at least one educational event for NEN patients or awareness campaign
- Successful attendance at ENETS-E-Learning platform
- Minimum of 3 (co-)authorships in peer-reviewed publications in the field of NEN disease during the last 5 years
- Minimum of 2 oral or poster presentations on NEN disease at national or international symposia/congresses

Syllabus

Pathology – diagnosis and prognostic stratification

Gross analysis and processing of tissues
Diagnostic standards
    Neuroendocrine phenotype
        Mandatory and optional elements for assessing a biopsy/specimen
Differentiation
    WHO and UICC/AJCC classifications
    Grading
    Mandatory elements for assessing a tumour with features of a GEP NEN
    Optional diagnostic markers (e.g. immunostaining for hormones, somatostatin receptors, serotonin or CDX2))
Minimum requirements of pathology reports
Predictive markers of a response to treatment (e.g. MGMT)
Knowledge of molecular markers

Endocrinology- diagnosis and treatment

Knowledge of neuroendocrine phenotype
    Sporadic, hereditary, hereditary syndromes

- Functional and non-functional NEN
- Ectopic hormonal syndrome

Endocrine emergencies
Establishing of a diagnosis of NEN
- Biochemical diagnosis
- Standard tumour markers
- Differential diagnoses
- Stimulations tests for diagnosis and primary tumour localization
- Search for a primary tumour

Treatment of symptoms induced by hormonal hyper- and hyposecretion
- Somatostatin analogues

Treatment of symptoms induced by hormonal hyposecretion

Imaging – morphologic imaging and functional imaging

US, CT, MRI
- Specific imaging aspects of pancreas NEN
- Specific imaging aspects of small bowel NEN and their loco-regional disease
- Specific imaging aspects of neuroendocrine liver metastases

Somatostatin receptor based functional imaging
- Octreoscan, ^{68}Ga DOTA-PET/CTs,^{68}Ga DOTA-Exendin-4 PET/CT

Non- Somatostatin receptor based functional imaging
- ^{18}F FDG PET/CT, ^{18}F DOPA PET/CT

Pitfalls in morphologic and functional imaging

Interventional radiology

Diagnostic imaging guided biopsy
Percutaneous organ directed treatment (pancreas, liver)
- Ablation (e.g. RFA, microwave, laser)

Transarterial embolization (e.g. TAE, TACE, SIRT)
Techniques of blood sampling for hormonal essays and tumour localization
Emergency interventions (e.g. embolization)

Gastroenterology- diagnosis and treatment

Causes of diarrhea in NEN patients
Differential diagnosis of hypergastrinemia
Differential diagnosis of jaundice

Differential diagnosis of ascites
Knowledge in nutrition
    Diagnosis and treatment of malnutrition and weight loss
Understanding of disease-related digestive and metabolic dysfunction
Indications for diagnostic upper GI endoscopy and colonoscopy
Endoscopic techniques
    Endoscopy, ultrasound guided biopsy, endoscopic ultrasound, video capsule endoscopy, balloon enteroscopy
Endoscopic tumour ablation (e.g. EMR, ESD, FTRD)
Stenting
Treatment of hormonally induced gastro-intestinal symptoms
Treatment of carcinoid syndrome
Treatment of pancreatic insufficiency
Treatment of short bowel syndrome
Treatment of emergency conditions (e.g. bleeding, bile leak)

Pre- and Peri-operative / Peri-interventional Management

Assessment of the tumour type and hormone production
Carcinoid syndrome
    Definition
    Preoperative fluid, electrolyte, vitamin, and protein abnormalities
    Carcinoid heart disease
    Carcinoid crisis
    Atypical carcinoid syndrome
    Specific recommendations concerning anaesthesia
    Perioperative treatment with Octreotide
Pancreatico-duodenal NEN
    Gastrinoma, Zollinger-Ellison syndrome
        e.g. PPIs
    Insulinoma
        e.g. Diazoxid
    Glucagonoma
    VIPoma
Syndromes related to ectopic hormonal secretion
    Hypercortisolism
    Hypersecretion of PTH

Surgery

Selection of patients for surgical treatment
Gastric NEN – Indication for surgery and surgical strategy
Duodenal NEN - Indication for surgery and surgical strategy
Pancreatic NEN- Indication for surgery and surgical strategy
- Sporadic NEN, MEN1 associated NEN
- Functioning and non-functioning NEN
- Small (<2cm) non-functioning NEN
- Surgical complications and their management

Small bowel NEN – Indication for surgery and surgical strategy
- Specific aspects of resection of loco-regional (mesenteric) lymph node metastases
- Surgical complications and their management

Colonic NEN- Indication for surgery and surgical strategy
Appendix NEN – Surgical strategy
- Goblet cell cancer- Surgical strategy

Rectal NEN- Indication for surgery and surgical strategy
Neuroendocrine liver metastases - Indication for surgery and surgical strategy
- Resection (R0/R1)
- Principles of debulking (R2)
- Risks of liver surgery and management of complications

Liver transplantation – Patient selection, principles of transplantation medicine, surgical strategy
Neoadjuvant and adjuvant treatment concepts
Resection of the primary tumour in the presences of non-resectable distant metastases

Systemic therapy

Patient selection
Mechanisms of action, indications, contraindications, dosing, side-effects
Targeted therapy
- Somatostatin analogues
- Everolimus
- Sunitinib
- Peptide receptor radionuclide therapy with radiolabelled somatostatin analogues
  - ^{90}Y PRRT, ^{177}Lu PRRT
  - Specific aspects- selection of patients, side-effects, kidney protection
  - Knowledge of principles of theranostics

Interferon-Alpha
Chemotherapy (e.g. STZ/5-FU, temozolamide/capecitabine, platinum-based regimens for poorly differentiated grade 3 NEC, oxaliplatin- or irinotecane-based regimes)
Immunotherapy
Telotristat

Assessment, grading and reporting of side-effects of systemic therapy
Knowledge of major trials in the field of NEN
Principles of follow-up of NEN patients

Radiotherapy

Indications in NEN patients (e.g. bone metastases, brain metastases)

Palliative treatment and supportive care

Indications, principles

Primary tumour specific aspects of diagnosis and management of NEN

Appendix NEN
- Goblet cell carcinoma
- MANEN

Gastric NEN
Duodenal NEN
Pancreatic NEN
- Functioning
- Non-functioning
  - Sporadic NEN
  - Hereditary NEN
    - Hereditary syndromes (e.g. MEN 1 syndrome)

Primary hepato-biliary NEN
Small bowel NEN
Colonic NEN
Rectal NEN
Cancer of unknown primary tumour origin (CUP NEN)

Special knowledge

Holistic needs of NEN patients
Quality of life assessment in NEN patients
Patient reported outcomes of treatment
Multidisciplinary management of NEN patients
Cooperation with patient advocacy groups
Structure of a NEN center of excellence / NEN specialized centers
Current unmet needs and future developments in NEN field

b. Practical and clinical skills:

The candidates should all have a qualification, e.g. Board in Gastroenterology in their specialty prior to entering the program (Specialist in NEN Medicine).

c. Competencies required of the trainee

Life-long learning and reflective thinking; critical reading and appraisal of up-dated information relevant to neuroendocrine neoplasia as well as inpatient and ambulatory medicine
Acquisition of basic tools for teaching (including supervision), skills for research and education presentations, teaching of young colleagues, residents and allied healthcare professionals
Effective, open empathic and respectful communication with patients and family/relatives
Effective and professional communication with colleagues and other collaborators to ensure optimal patient care
Multidisciplinary and inter-professional team working in acute care, as well as in the context of protocol implementation
Effective communication in the setting of multidisciplinary teams in the resolution of conflicts, decision-making skills, giving feed-back, taking and assuming leadership
Implementation and use of quality assurance programs according to recognized national and international standards
Implementation and use of local, national and international practice guidelines and standards while complying with national healthcare policies
Promotion of and participation in better and safer patient care
Knowledge of administrative, medico-legal, ethical, and economical aspects, as well as inpatient and outpatient management principles
Contribution to research, development, and implementation of new medical knowledge as well as auditing
Contribution to education of patients, students and healthcare professionals

Grades of Competence:

1. Knowledge
1.1. knows of
1.2. knows basic concepts
1.3. knows generally
1.4. knows specifically and broadly
2. Clinical Skills
2.1. Has observed – the trainee acts as an 'Assistant'. From complete novice through to being a competent assistant. At end of level 1 the trainee:
2.2. Has adequate knowledge of the steps through direct observation.
2.3. Demonstrates that he/she can handle the apparatus relevant to the procedure appropriately and safely.
2.4. Can perform some parts of the procedure with reasonable fluency
2.5. Can do with assistance - a trainee is able to carry out the procedure 'Directly Supervised'. From

being able to carry out parts of the procedure under direct supervision, through to being able to complete the whole procedure under lesser degrees of direct supervision (e.g. trainer immediately available). At the end of level 2 the trainee

2.6. Knows all the steps - and the reasons that lie behind the methodology.
2.7. Can carry out a straightforward procedure fluently from start to finish
2.8. Knows and demonstrates when to call for assistance/advice from the supervisor (knows personal limitations).
2.9. Can do the whole procedure but may need assistance – a trainee is able to do the procedure 'indirectly supervised'. From being able to carry out the whole procedure under direct supervision (trainer immediately available) through to being able to carry out the whole procedure without direct supervision i.e. trainer available but not in direct contact with the trainee. At the end of level 3 the trainee
2.10. Can adapt to well-known variations in the procedure encountered, without direct input from the trainer.
2.11. Recognizes and makes a correct assessment of common problems that are encountered.
2.12. Is able to deal with most of the common problems.
2.13. Knows and demonstrates when he/she needs help.
2.14. Requires advice rather than help that requires the trainer to intervene
2.15. Competent to do without assistance, including complications. The trainee can deal with the majority of procedures, problems and complications, but may need occasional help or advice.
2.16. Can be ***trusted*** to carry out the procedure, independently, without assistance or need for advice. This concept would constitute one Entrustable Professional Activity (EPA). An EPA is 'a critical part of professional work that can be identified as a unit to be entrusted to a trainee once sufficient competence has been reached'. This would indicate whether one could *trust* the individual to perform the job and not whether he is just competent to do it. At the end of level 5 the trainee:
2.17. Can deal with straightforward and difficult cases to a satisfactory level and without the requirement for external input to the level at which one would expect a consultant to function.
2.18. Is capable of instructing and supervising trainees.

3. Technical Skills

3.1. Has observed.
3.2. Can do with assistance.
3.3. Can do whole but may need assistance.
3.4. Competent to do without assistance, including complications, but may need advice or help.
3.5. **Can be *trusted* to carry out the procedure, independently, without assistance or need for advice (EPA).** EPAs have been explained previously.

The above detailed classification of Competence Levels could be useful during the process of formative training, when it comes to deciding when an applicant is eligible to sit an eventual Specialist Exit examination, it is the evaluation of the EPAs which is essential. In this sense, the Eligibility Assessment Process is really the first part of the Examination and that explains the suggestion that the '5th level of Technical Skills competence' should be included in a standardized Logbook Template for all trainees

List[1] of comprehensive Entrustable Professional Activities (EPAs)[2]

- Evaluate and manage a new medical condition in an ambulatory patient and coordinate care between healthcare providers across multiple care settings
- Manage the care of patients with rare cancers across multiple care settings
- Manage the care of patients with complex medical conditions, and/or comorbidities, across multiple care settings
- Manage transition of care for adult patients transferring to another care setting
- Manage transition of care for young patients transferring from paediatric to adult services
- Provide medical consultation to nonmedical specialties
- Lead a family meeting to discuss serious news (bad news, end of life care) with a patient and/or family and other health providers
- Obtain initial history, perform physical examination, and formulate a management plan for a new ambulatory patient in continuing care
- Manage the care of patients with chronic conditions across multiple care settings
- Access medical information to provide evidence-based care
- Facilitate the understanding of patients, their families, and members of the multidisciplinary team
- Recognize and diagnose common nonmedical conditions (i.e., neurological, dermatologic, psychiatric etc.) and refer appropriately to other specialty care
- Diagnose and comanage patients with complex conditions needing other specialty care (inpatient or outpatient)
- Organize and maintain information and knowledge through medical practice to improve personal development when delivering care and educating others (journal club, etc.)
- Recognize when palliative care is needed and liaise with palliative care specialists
- Counsel patients appropriately
- Advocate for individual patients by representing them, supporting them and working for them
- Improve patient safety
- Provide age appropriate screening and preventative care
- Identify and address any need for quality improvement in a clinical setting
- Improve the quality and safety of healthcare at both individual and systems levels

[1] Adopted with revisions from Karen. E. Hauer, Jeffrey Kohlwes, Patricia Cornett, Harry Hollander, Olle ten Cate, Sumant R. Ranji, Krishan Soni, William Iobst, and Patricia O'Sullivan (2013) Identifying Entrustable Professional Activities in Internal Medicine Training. Journal of Graduate Medical Education: March 2013, Vol. 5, No. 1, pp. 54-59 and the Alliance for Academic Internal Medicine. Internal Medicine End of training EPAs, 2012

[2] Definition: An EPA is 'a critical part of professional work that can be identified as a **unit** to be ***entrusted*** to a trainee once sufficient competence has been reached'. An EPA goes a level higher than the traditional 4th level of competence which is the 'independence competency'. The key factor is ***Entrustment.*** The trainee is not only capable of tackling the particular procedures or units independently, but he can be ***trusted*** to do this by his tutors.

- Provide telephone management for an ambulatory rare disease patient
- Provide care to nonnative speakers in an inpatient or outpatient setting through the use of appropriate translation services
- Develop and implement a management plan based on review of outcome data for ambulatory patient population
- Provide inpatient and outpatient care for patients with difficulty in accessing appropriate healthcare; advocate for individual patients where needed
- Participate in an in-hospital cardiopulmonary resuscitation
- Perform common procedures in internal medicine
- Undertake a research project (e.g., a degree or diploma, audit, quality improvement, educational opportunity, other)
- Develop the practice of lifelong learning
- Demonstrate professional behaviour at all time

Logbook Recommendation:

Purpose: The purpose of the logbook is to document that the applicant has had direct and meaningful involvement in the rare disease evaluation, counselling and management of patients and/or families, and has received appropriate clinical supervision.
The EPA is a Unit and units can be counted. The certified Logbook with a category for EPA included is the key. Because the emphasis and attitudes regarding the spectrum of competences and education within any medical field vary significantly in the individual states, one cannot expect applicants to have attained EPA competency in each and every item listed in the Syllabus/Curriculum. In other words, one cannot expect Eligible Candidates to have attained must have attained 100% of the possible EPA Units in the Syllabus / Curriculum. The Eligibility Committee applies the correct degree of flexibility allowing for equivalence of some procedures. To give an example, the percentage of items in the Syllabus to be expected of an applicant attaining the EPA grade of competence, for the EBSQ General Surgery, is presently set at 65%. This is an arbitrary figure which was reached by evaluating the previous year's candidates' data but will obviously vary with each particular Assessment and possibly from year to year. Another important legal point is that each Examination Board has to establish this threshold when the Exam Webpage goes online.

Requirements: Logbook must be completed in accordance with the instructions provided in this summary and anticipates ongoing review of cases between the trainee and their program director, the applicant should assure that all requirements have been fulfilled before submitting the final logbook for review.
Case Selection:

All cases must be obtained through accredited residency and/or training program.
All cases must be obtained during the inclusive dates of the applicant's training.
Each logbook entry must document a face-to-face interaction between the applicant and an individual patient and/or family.

A given patient or family may appear only once in an applicant's logbook, regardless of the number of encounters with that patient or family.

Description of Logbook Headings/Columns:
Entry Number: The logbook spreadsheet allows a trainee to enter an unlimited number of cases while in training. For the final logbook that may be requested for audit, you must select 100 cases to submit that fulfil all of the defined requirements. The applicant must be able to identify each case by its entry number if questions arise about a logbook entry
Date: The date in month/day/year [MM/DD/YYYY] format identifies when the patient was seen
Patient Age Category: For each case, the patient's age must be given. Age refers to age of the patient on the date of the clinic visit.
Diagnosis: The cases seen should reflect the heterogeneity of NEN.

2. Organization of training

a. Schedule of training
A medical trainee (level of a consultant) is a doctor who has completed their general professional training and has received a board in his/her specialty (e.g. Board in Pathology, Board in Gastroenterology, Board in Surgery). The trainee in NEN must be recognized as a trainee according to the regulations in force in each EU/EEA member state. The duration and curriculum of training in NEN should enable the trainee to become a fully independent specialist in NEN. The optimal NEN competency training is 2 years in an accredited program in ENETS Centers of Excellence or in an institution providing service for NEN patients on the level of a ENETS Centers of Excellence.

b. Training curriculum
The general aim of the training program is to enable the NEN specialist to work effectively as a consultant in the field of NEN medicine. trainee must communicate effectively with patients and relatives, and be able to pass on both technical information in a way that it can be received with understanding, and distressing information in a sensitive and caring manner.

c. Assessment and evaluation
The MJC RUD aims to introduce an EU Board Exam in NEN. The successful candidates will gain a European Certificate in NEN, which is intended to be the main knowledge-based assessment tool for training and assessment across Europe and ultimately for all continent's experts, with the aim of establishing world class-leading standards in that competency throughout all countries. At the moment, there is no such national level exam anywhere in Europe. Later, countries may use their own assessment strategies appropriate to their needs, provided they introduce their own training and assessment systems. Knowledge will be assessed through a form of examination. This examination would use scenarios from an agreed list of core clinical conditions and test knowledge in the areas of relevant science and clinical practice (diagnosis, investigation, interpretation, prevention and

treatment). Whether the examination will be written or oral in nature, and its precise format, remains to be determined. We propose the following assessment protocol:

Part 1 (MCQ) : 150 single best answer MCQ in 2.5 hours (150 minutes) worth 40% of overall mark. Not negatively marked. Candidates are required to make the minimum standard in the MCQ to be allowed to sit Part 2 the following day (75% of the 95th centile).

Part 2 (Clinical Exam): 9 x 10 minute stations worth 60% of overall marks. Stations include: Clinical scenarios from the curriculum will be assessed by oral examination (viva voce). There are standardized patients present in some of the stations. One station will assess the candidate's ability to critically appraise (Evidence Based Medicine appraisal) of a journal paper. A selected journal paper will be given to candidates 45 minutes before their Part 2 (Clinical exam) circuit. Non-technical skills such as obtaining consent and communication will also be assessed in stations. All stations are not weighted the same marks. A standard setting exercise will be conducted by the examination board to determine final pass mark. Candidates must achieve a passing mark the Clinical Exam in itself.

Continuous medical education (CME) and continuous professional development (CPD) to keep updated with developments in diagnosis and management of NEN conditions as well as of global professional skills are obligations of the accredited expert. Type, duration, content and monitoring of CME/CPD activity will fall under the authority of ENETS and national boards that need to be established, and these boards should consider the general recommendations of the UEMS and ENETS. The UEMS and ENETS provide European accreditation of CME (EACCME) for international events according to defined quality standards. It is recommended that trainees in NEN field are introduced to CME/CPD during their training period.

Due to the current Coronavirus outbreak pandemic, our lives and activities have been changed and are changing right now. We are facing a new situation on a global scale and we are reorganizing our work, many events have been cancelled, postponed or re-organized in online format in order to keep everybody safe and collaborate all together to overcome this crisis. This also effects examinations worldwide. Taking this into consideration it is important for the future that we develop a system for doing the exam online and possible parts of the training as well, all according to UEMS CESMA and ENETS guidelines.

d. Governance

Governance of each training program will be the responsibility of the Program or Course Director and the institution(s) in which the training program is being delivered. A trainer (who will have satisfied the requirements laid out below, Section II) will be responsible to the Program Director for delivering the required training in their area of practice.

II. Training requirements for trainers

1. Process for recognition as trainer

a. Requested qualification and experience and core competencies for trainers:

- ENETS member
- UEMS certified specialist in Neuroendocrine Neoplasia Medicine (desirable)
- Continuous supervision of clinical training
- Signs Logbook
- Takes UEMS examinations
- Approved application as trainer by ENETS Executive Committee

III. Training requirements for training institutions

1. Process for recognition as training centre

a. Requirement on staff and clinical activities

A training centre is a place, or number of places, where trainees can develop their competences in rare adult solid cancers. Thus, training may take place in a single institution, or in a network of institutions working together, to provide training in the full spectrum of clinical conditions and skills detailed in the curriculum. A training institution must have national accreditation, in agreement with UEMS and ENETS standards, and should possess an adequate infrastructure and offer qualitative and quantitative clinical exposure. Optimally, they are member(s) of one or more European Reference Networks (ERNs) and accredited as ENETS Centers of Excellence

Each participating institution in a network must be individually recognized as a provider of a defined section of the curriculum. Training centres must have a sufficient throughput of patients, an appropriate case-mix to meet training objectives, and be adequately resourced with teaching staff.

The training must expose the trainee to a broad range of clinical experience. The training of a trainee will be led and managed by a specialist. This specialist will be active in the practice, with personal responsibility for the management of patients with a wide range of rare adult solid cancers. Within a training centre there should be a team of specialists, each with subspecialty expertise and able to supervise and train a trainee. Allied specialties must be present to a sufficient extent to provide the trainee with the opportunity of developing his/her skills in a multidisciplinary approach to patient care. There is no specific trainee/trainer ratio required, but there should be a minimum of two trainers in a training centre, and it is likely that non-medical healthcare professionals will also be engaged.

The trainee should be involved in the diagnosis and management process of new patients (outpatients and in-patients), as well as their follow up. A trainee must demonstrate personal responsibility for the

global care of patients with rare adult solid cancers. There should be written general guidelines within the training institution concerning patient care and patient information (including informed consent), referrals, medical records, documentation, on-call and back-up schedules, attendance at conferences and educational/training courses.

The staff of a training centre should engage collaboratively in regular reviews and audit of the centre's clinical activity and performance. There should be regular multi-disciplinary meetings to determine optimal care for patients, involving both medical and other healthcare professionals.

Specialist staff appointed to a training centre will have completed all training requirements themselves and will have been trained also in teaching and mentoring trainee staff, staff as well as in working in a multidisciplinary team.

b. Requirement on equipment, accommodation
A training centre should have enough equipment and support to enable the clinical practice that would be expected of a training centre and thus provide the necessary educational opportunities for trainees. The trainee must have adequate time and opportunities for practical and theoretical study and have access to adequate professional literature. Computing, Information Technology and library resources must be available. All trainees must engage in clinical audit and have the opportunity to engage in research.

2. Quality Management within Training Institutions
Participation of the training institution in a certified quality management program with an external auditing process on a regular basis is consistent with good governance. Naturally everything will be conducted in accordance to CESMA, EACCME and NASCE guidelines. Criteria of quality management at competency training institutions include the following:

Accreditation
Training institutions need to be accredited with competent National Medical Boards and ideally also with ENETS. Detailed requirements for accreditation as ENETS Center of Excellence are in place (www.enets.org). A training institution must have an internal system of medical audit or quality assurance. Quality assurance must be an integral part of the training program of all training institutions and networks. A national register of approved institutions and networks should be available. Internal regulations: There should be written general guidelines within the training institution concerning patient care and patient information (including informed consent), referrals, medical records, documentation, leave (annual, study, maternity/paternity), residents' working schedules, conference attendance and educational activities. These should be available to staff and trainees.
Institutions with expertise and infrastructure comparable with ENETS Centers of Excellence must be approved by ENETS in order to be able to participate in the NEN Specialist training program.

Clinical governance
Employee structure at training institutions needs to be designed in a way to accommodate for competency training. Workload must be managed with a priority on training.

Manpower planning
Training institutions should appoint a coordinator responsible for the composition, implementation and supervision of a competency training program. Roles of trainer and trainee need to be clearly defined. Allotted time of at least one day per workweek should be implemented for competency training interaction. Manpower planning is under the jurisdiction of each member state according to their needs for rare adult solid cancer specialists.

Regular report
Annual reports on various aspects of an institution's competency training program should be made publicly available.

External audit
Training institutions should appoint a coordinator who is also responsible for compliance of the training program with current guidelines, directives or regulations of competent medical boards, as well as the local medical school.

Transparency of training programs
Based on national and regional guidelines, UEMS and ENETS strongly encourage training institutions to formulate defined training programs and make them publicly available, for example, on their website. It would be expected that a training centre would publish details of the training provision available with details of the clinical service it provides and the names of the trainers. Such information would include the training programs, the nature of the clinical or laboratory experiences in which a trainee would be engaged, and the support and interaction with the trainer and Program Director. There would be a named individual whom a prospective trainee might contact and discuss the program.

Framework of approval
As part of training programs, it should also be made clear how and by whom key achievements of training will be ascertained, leading the trainee to a higher level of clinical responsibility and new assignments. To assist a European medical specialist with additional clinical competence moving from one EU country to another it would be expected that they have satisfactorily completed a training program. After the examination in NEN they may be able to demonstrate that they have the required knowledge, clinical and laboratory skills and competences, as well as having demonstrated appropriate professional behaviours. Such accomplishments would be verified both by relevant documents and by the testimony of trainers and other staff who have worked with the trainee.

Feedback from trainers and trainees

Feedback about program quality from both trainers and trainees must be systematically sought, analysed and acted upon. Trainers and trainees should be actively involved in using its results for program improvement and development.

Recommended readings: ENETS Guidelines, available on www.enets.org

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