UNION EUROPÉENNE DES MÉDECINS SPÉCIALISTES

EUROPEAN UNION OF MEDICAL SPECIALISTS

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UEMS MULTIDISCIPLINARY JOINT COMMITTEE in PHLEBOLOGY

EUROPEAN BOARD of PHLEBOLOGY

Speciality Training Programme and Curriculum for Phlebology
European Training Requirements
European Standards of Postgraduate Medical Training

PREAMBLE.

The European Union of Medical Specialists (UEMS) is the oldest medical organization in Europe founded in 1958. The UEMS is a non-governmental organisation representing national associations of medical specialists at the European Level. With a current membership of 37 countries, it is the representative organization of the National Associations of Medical Specialists in the European Union and its associated countries. Its structure consists of a Council responsible for and working through 43 Specialist Sections and their European Section and Boards, addressing training in their respective Specialties and incorporating representatives from academia (Societies, Colleges and Universities). An Executive comprising the President, the Secretary-General, the Liaison Officer, the Treasurer and four Vice-Presidents, is responsible for the routine functioning of the organization. UEMS represents over 1.6 million medical specialists. It also has strong links and relations with European Institutions (Commission and Parliament), the other independent European Medical Organizations and the European Medical/Scientific Societies. By its agreed documents, UEMS sets standards for high quality healthcare practice that are transmitted to the Authorities and Institutions of the EU and the National Medical Associations, stimulating, and encouraging them to implement its recommendations. The UEMS is committed to promote the free movement of medical specialists across Europe, while ensuring the highest level of training which will fulfil its goal of improvement of healthcare quality delivered to European (and non-European) citizens. The 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. The UEMS areas of expertise notably encompass Post Graduate Training, Continuing Medical Education (CME) and Quality Assurance.
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 specialties, 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 20 years 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.

A further objective is the encouragement and facilitation of CME (Continuing Medical Education) for European specialists. UEMS is very active in the field of CME-CPD (Continuing Professional Development). Amongst the developments in this area are:

- The Charter on CME of Medical Specialists in the European Union 1994,
- The Criteria for International Accreditation of CME 1999,
- The Basel Declaration on CPD 2001,
- The Declaration on Promoting Good Medical Care 2004,
- The Budapest Declaration on Ensuring the Quality of Medical Care 2006.

A major concern of the UEMS has been the structure and facilitation of accreditation of CME-CPD activities with the awarding of appropriate credits (hours) to individual medical specialists throughout Europe.

The UEMS established the European Accreditation Council for CME (EACCME®) in order to provide Europe with a coordinated system to facilitate such activity, without encroaching on the responsibility of national organizations where they exist.

The CESMA (Council of European Specialist Medical Assessment) is an advisory body of the UEMS created in 2007 with an aim to provide recommendation and advice on the organisation of European examinations for medical specialists at the European level.

Its main role is to:

- promote harmonisation of European Board assessments
- provide guidelines to the Boards on the conduct of assessments
- encourage take up of Board assessments as a quality mark

- offer an alternative to National assessments, where appropriate.

The CESMA adopted in Glasgow a declaration setting the basic rules governing European Examinations. The "Glasgow Declaration" was signed by the following UEMS Specialist Sections: Neurosurgery; Nuclear Medicine; Orthopaedics and Traumatology; Pediatric Surgery; Pathology; Plastic, Reconstructive and Aesthetic Surgery; Pneumology; Urology and Vascular Surgery. In 1984 the first European Diploma Examination was established.
The UEMS developed the idea of assessing medical specialists' competence at the European level through the evaluation of their knowledge, skills and professionalism. Thanks to the competence-based European Curricula developed for each Specialist Section, the UEMS advocate for harmonized assessment of medical training. In this regard, the UEMS established the European Council for Medical Specialist Qualifications (ECAMSQ). The aim of this body is to address this issue through establishing a comprehensive mechanism of appraisal of knowledge, skills and professionalism of post-graduate medical trainees according to the highest standards of medical training in Europe. In addition to the promotion of the standardization and evaluation of postgraduate specialist medical training and CME/CPD in Europe, the UEMS promotes quality assurance and assessment of Specialist medical practice at a European level.

DEFINITION OF PHLEBOLOGY.

Diagnosis and treatment of venous diseases is a multidisciplinary issue. Phlebology is the study of the anatomy, physiology, diseases and treatments of the veins. Complaints and clinical signs of Chronic Venous Disorders (CVD) are related to disturbances of the macro and microcirculation. Venous Disorders concern mainly the lower legs, and it can be acute e.g. superficial and/or deep venous thrombosis, varicose vein bleeding, or chronic e.g. varicose veins, post-thrombotic syndrome and venous malformations. The CEAP classification is a clinical classification method accepted worldwide, it was first developed in 1995 and revised in 2004. The CEAP classification describes Clinical classes (from 0 to 6), Etiology, Anatomy and Pathophysiology of CVD.
Venous symptoms may include tingling, aching, burning, pain, muscle cramps, swelling, sensations of throbbing or heaviness, itching skin, restless legs, leg tiredness, and/or fatigue. Although not pathognomonic, these may be suggestive of CVD, particularly if they are exacerbated by heat or worsen during the course of the day, and are relieved by leg rest and/or elevation. Clinical signs are varicose veins, telangiectasias, corona phlebectatica, edema, hyperpigmentation, lipodermatosclerosis, white atrophy ("atrophie blanche") and leg ulcers. Overweight, obesity, occupational factors, hormones and hormonal treatments, inherited and genetic factors seem to play an important role in Phlebology. Patients with varicose veins usually have a positive family history for the disease, and in the analysis of deep vein thrombosis patients inherited thrombophilia risk factors are sometimes discovered. Some venous diseases are congenital, e.g. May-Thurner or Klippel-Trenaunay syndrome. Furthermore diseases of the lymphatic system usually belong to the working area of Phlebology. Phlebology is practiced mainly by Angiologists/Vascular Physicians, Internists, Dermatologists and General/Vascular Surgeons. The management of the phlebology patient demands

not only extensive knowledge of the venous anatomy, pathophysiology and diseases, but also a variation of invasive and non-invasive diagnostic and therapeutic skills. The fact that Phlebology in most countries does not exist as a distinct (sub) specialty, and the diversity of medical knowledge and skills that is needed to treat phlebology patients, explains why physicians of different specialties practice Phlebology. This broad spectrum of medical doctors justifies the multidisciplinarity and a separate representation in the UEMS.

PHLEBOLOGY IN EUROPE.

In Europe, Phlebology does not have the status of a Specialty. It is recognized as a Subspecialisation (Additional Training) only in Germany, Austria and Switzerland. Phlebologists are General Practitioners, General and Vascular Surgeons, Angiologists, Vascular Physicians, Dermatologists, Doctors in Internal Medicine etc. There are important differences between the countries concerning the specialisation of the Physicians working in the field of Phlebology - in some countries (e.g. Poland) most people come from Vascular Surgery (VS) and Vascular Medicine (VM) field, in others (e.g. Germany) there is high prevalence of Dermatologists in this area. Taking into account the programs of training in VM, VS or Dermatology there is still no unification of the specialisation programs in Europe that makes potential differences in the training in Phlebology between the countries.
The Phlebology training in each country is part of the general training of a Vascular Surgeon, of a Dermatologist (Germany, Switzerland, Netherlands) or a Vascular Physician (Angiologist) in France. Masters and Courses organized by Scientific Societies or Universities or even Private Organizations are available in all European countries but there is not a real uniform, shared curriculum leading to Phlebology.
In Germany, regulations differentiate the status of Medical Specialisation from Subspecialisation and Additional Training. Phlebology has the status of an Additional Training. There is a paper called “Musterweiterbildungsordnung (MWBO)” which is the base for all the WBO (regulations for postdoc education) which are only valid each for one out of sixteen “Bundesländer” (Provinces). In the WBO times and contents of education in Phlebology are regulated (the text is added to this draft). The Subspecialisation of Phlebology embraces prevention, recognition, treatment and rehabilitation of diseases and malformations of the venous system of the lower extremities, including thrombotic diseases. In addition the German Society of Phlebology (DGP) has founded an academy for education and offers a curriculum for gaining phlebological competence and certifying this competence.
In contrast, to gaining the level of a proofed additional training, which is a legal act, the training according to the DGP academy is a private activity.
In France Vascular Medicine (VM) is a official Specialty (DES Médecine Vasculaire / co-DES Cardiologie) since November 2015. The Specialization in VM includes education in Phlebology as well as in arterial and lymphatic diseases. It must be emphasized that all students in VM receive a high level education and training in Duplex Ultra Sound Scanning. The VM Specialty lasts four years. If a newly graduate in VM wants to aim his activity toward Phlebology, the possibility exists to enhance his knowledge thanks to several university diplomas including one in Phlebology (Paris VI). This is optional for Vascular Physicians but the French

high authority for health (HAS) requires a special knowledge and training for physicians wishing to practice endovascular procedures.
In Greece a 6 month training program for vascular ultrasound, supervised by the Ministry of Health, is offered to Vascular Surgeons who need an official certification for ultrasound practice. This program is run in three University Hospitals of the country where the Vascular Departments have the necessary facilities.
In the Netherlands Phlebology is still not a separate specialty but it is incorporated in the training of Dutch Dermatologists since the 1985.
In Italy and in Poland the Italian College of Phlebology and the Polish Society of Phlebology introduced the system of certification (Certificate in Phlebology) based on the previous training, experience and the number and kind of performed phlebological interventions (including ulcer treatment, compression therapy, sclerotherapy and other kind of interventions). To maintain the certificate there is need of continuous education based on the conference and courses participation, phlebological journals subscriptions and conference reports presentation or paper publication (certificate is valid for 2 years).

SCIENTIFIC PHLEBOLOGICAL SOCIETIES.
The National European Phlebological Societies are:
Austria
AUSTRIAN SOCIETY OF PHLEBOLOGY AND DERMATOLOGY ANGIOLOGY
Balkan countries
BALKAN VENOUS FORUM
Baltic countries
BALTIC SOCIETY OF PHLEBOLOGY
Benelux
BENELUX SOCIETY OF PHLEBOLOGY
Bulgaria
BULGARIAN SOCIETY OF PHLEBOLOGY
Croatia
CROATIAN SOCIETY OF PHLEBOLOGY
Czech Republic
CZECH SOCIETY OF PHLEBOLOGY
France
FRENCH SOCIETY OF PHLEBOLOGY (SFP)
Germany
GERMAN SOCIETY OF PHLEBOLOGY (DGP)
Greece
HELLENIC PHLEBOLOGICAL SOCIETY
Hungary
HUNGARIAN VENOUS FORUM
Italy
ITALIAN ASSOCIATION OF PHLEBOLOGY (AFI)
ITALIAN COLLEGE OF PHLEBOLOGY (CIF)
ITALIAN SOCIETY OF PHLEBOLOGY (SIF)
ITALIAN SOCIETY OF PHLEBOLYMPHOLOGY (SIFL)
Netherlands
DUTCH COLLEGE OF PHLEBOLOGY
Poland
POLISH PHLEBOLOGICAL SOCIETY

Portugal
PHLEBOLOGICAL SECTION OF THE PORTUGUESE SOCIETY OF CARDIO-THORACIC AND VASCULAR SURGERY
PORTUGUESE SOCIETY OF ANGIOLOGY AND VASCULAR SURGERY
PORTUGUESE SOCIETY OF SURGERY, CHAPTER OF VENOUS SURGERY
Romania
ROMANIAN SOCIETY OF PHLEBOLOGY
Serbia
SERBIAN COLLEGE OF PHLEBOLOGY
Spanish
SPANISH CHAPTER OF PHLEBOLOGY AND LYMPHOLOGY
Swiss
SWISS SOCIETY OF PHLEBOLOGY
Scandinavian
SCANDINAVIAN VENOUS FORUM
Turkey
TURKISH SOCIETY OF PHLEBOLOGY
United Kingdom
VENOUS FORUM OF THE ROYAL SOCIETY OF MEDICINE

There are two other European Phlebological Societies: the European Venous Forum EVF (the EVF is an all European Society with personal membership), the European College of Phlebology ECoP (an Union of Phlebological Societies in Europe). Others societies more devoted to VM or VS but including Phlebology: the Société Française de Médecine Vasculaire, the Société Française d'Angéiologie which is more multidisciplinary, the Italian Society of Angiology and Vascular Pathology and all the national societies of VS. Some societies in Europe are devoted to the knowledge and care of leg ulcers, i.e. European Wounds Medical Associations, Italian Association of Cutaneous Ulcers and others. The Compression Therapy study Group CTG and the International Compression Club ICC are devoted to Compression Therapy.
The Phlebologists members of the Phlebological Societies are approximately 10.000.
The majority of the Phlebological Societies is affiliated to the International Union of Phlebology UIP, founded in 1959.

I. TRAINING REQUIREMENTS FOR TRAINEES.

A medical trainee is a doctor who has completed his/her undergraduate medical education and professional training as a physician.
The ultimate goal of training is to provide the best quality for care, in accordance with the principles of equity for patients, citizens and for the specialists in the right to education.
Europe still has major differences in its training and the programmes provided. The differences are even more profound for Phlebology, as it requires a multidisciplinary approach.
At the moment Phlebology still does not reach the requirements for a primary specialty. In fact, the process required for the European Union to include Phlebology as a specialty in the annex V first requires recognition in at least 2/5th of the Member States (article 25), by a 'qualified' majority and submitted to the committee on qualifications of the European Commission. Secondly, to create a Specialist Section for Phlebology within the UEMS, Phlebology

has to be recognized as an independent specialty by more than one third of the E.U. Member States and must also be registered in the Official Journal of the European Commission (Directive 205/36/EC). However, in most European countries Phlebology exists in the NHS and these Centers are entrusted with the care of vascular patients in the medical/surgical areas. There is expertise defined by this medical/surgical areas to respond to the requests in demand from an increase in phlebological diseases, the need for a prevention also in terms of evolution of the diseases, both linked to the ageing population and the social burden of Chronic Veonus Disease. Phlebology has extensive training background in Europe and it is crucial that the European population and patients have the same quality in medical care and prevention. This is only possible by providing high quality training programs, to European standards, offered by qualified and validated Centres and should be based on training, standard methods and with appropriate equipment independently from the wealth of the individual countries. This also responds to the aims of harmonisation coordinated by UEMS. The European Training Requirements in Phlebology, named Competency Degree in Phlebology CDP and Competency Degree in Phlebological Procedures CDPP, will have to comply with the rules regulated by National Authorities/National Boards, which set standards in accordance with national rules and EU legislation.

1. Content of training and learning outcome.

This document statements of mission and outcomes must describe the competency based training process to create a medical doctor able to undertake comprehensive up-to-date medical practice in Phlebology in a professional manner, unsupervised and independently or within a team, in keeping with the needs of the health care system.

Appropriate innovation in the training process is encouraged for development of broader competencies than minimally required and constantly strive to improve patient care that is appropriate, effective, respecting human rights, dignity and equity in dealing with health problems and promotion of health.

The training should prepare specialists for lifelong, selfdirected learning and readiness for continuing medical education and professional development.

Professionalism and autonomy.

The training process must strengthen professionalism of the doctor.

The training should foster professional autonomy to enable the doctor to act in the best interests of the patient and the public.

Training outcome.

Competences, which must be achieved by trainees as a result of the training programmes are described in the sections: Competencies and Curriculum.

The extent of competence achieved by trainees should be used as feedback for programme development.

Learning approaches.

Postgraduate training must follow a systematic training programme, which describes both the general and specialist components of training. The training must be practice-based involving the personal participation of the trainee in the services and responsibilities of patient

care activities in the training institutions (taking into consideration the national rules). The training programme must encompass integrated theoretical and practical instruction.
Training programme include a defined curriculum to enable trainees to achieve the programme's learning outcomes. The curriculum includes specific learning outcomes and a syllabus of knowledge, skills and professional attitudes and behaviour.
Training must include considerable experience with patient care in appropriate clinical settings, involving trainees in the supervised delivery of service and providing regular formal educational sessions that cover topics of value and of interest to the trainee.
Trainees should also have opportunities for self-directed learning and to create a personal development plan.

Scientific methods.

The trainee must achieve knowledge of the scientific basis and methods of Phlebology including understanding of research methodology, through exposure to a broad range of relevant clinical/practical experience in different settings, become familiar with evidence-based medicine and critical clinical decision-making.
The trainees should be involved in research projects, in scientific activity by publishing papers, giving lectures on local or international congresses. European collaborative projects which can facilitate exchange of experience and expertise should be recommended.

Knowledge, skills and behaviours - Core Curriculum.

The core curriculum described below defines the required knowledge, skills and behaviours that a Phlebologist should have acquired upon completion of his/her training period. In addition to knowledge and practical skills to enhance patient care and prevent disease, it is recommended that the curriculum provides the candidate with basic knowledge of scientific methodology, organizational skills, medico-legal and ethical care issues, including health economics, leadership and teaching skills. To achieve these goals, the trainee should be exposed to a sufficient number and variety of patients and procedures throughout the entire training period. Education is a dynamic process and the curriculum will be updated according to major advances in Phlebology and specific National requirements.

Competences.

To be appointed as a Phlebologist an individual should show a level of competence sufficient to allow independent clinical practice and be able to care for patients both in acute and chronic situations. By the end of the training programme the trainee will be expected to select appropriately, interpret correctly and where appropriate, perform competently, the required procedures and investigations. For the assurance of adequate experience a minimum number of procedures should be undertaken by each individual under different levels of supervision. For practical procedures each trainee should have a training Log-Book. The recommended Log-Book can be found as an appendix to this text (Appendix 1). The necessary numbers and levels of competence are defined in the curriculum. The trainee should have adequate competence in information technology, data recording and analysis and skills in researching relevant literature.

Training content.

The training process must include extensive clinical work and relevant theory of the basic biomedical, clinical, behavioural and social sciences; clinical decision-making; communication skills; medical ethics; public health policy; medical jurisprudence and managerial disciplines required to demonstrate professional practice in the specialty.

Phlebology is not recognized as a specialty itself, as a subspecialty at most. Against the background of a diverse background of the incoming trainees, a common training curriculum must be set.

a. Competencies required of the trainee.

The Competency Degree in Phlebology CDP must ensure a defined set of knowledge, skills, competence and assessments, aiming to offer the best quality of care to patients.

The Phlebologist should take care of the patient in a holistic way, taking into account ethical indications, social situations, characteristics and individual needs of the patient along with their theoretical and practical expertise.

The patients should be made fully aware of their situation and provided with the tools to improve it, be helped to follow their therapy to prevent the evolution of the disease and complications.

The Phlebologist should apply their competencies to stimulate and understand the information provided by the patient, make appropriate clinical choices also through diagnostic and therapeutic interventions. Therefore it is necessary to possess sound knowledge not only in the context of specific expertise, but also within the framework of the medical specialties involved (multidisciplinarity). He should has knowledge on communication, on patient education, ability in problem solving and to work in a team.

Phlebology includes prevention, diagnosis, treatment and rehabilitation of patients with venous diseases and venous malformations and specific knowledge about:

1. Knowledge and clinical experience.

A Phlebologist must have knowledge and clinical experience in different components of the discipline. These includes:

- Basic sciences
- Clinical sciences
- Diagnostic evaluation
- Treatment
- Other competences

1.1 *Basic sciences: Knowledge on:*

- Embryology of the vascular system
- Anatomy of the vascular system
- Histology and histopathology of venous diseases
- Genetics of venous and lymphatic diseases
- Physiology and pathophysiology of the venous and lymphatic system
- Wounds and wound healing (inflammatory processes)
- Skin changes of the extremities
- Hemostasis and thrombosis
- Venous thromboembolism

- Basic physical principles of diagnostic and therapeutic tools.

1.2 *Clinical sciences: Knowledge and clinical experience on:*

- Venous disorders
- Primary deep and superficial diseases
- Secondary deep and superficial diseases
- Chronic venous insufficiency
- Abdominal and pelvic venous disorders
- History taking
- Signs and symptoms of venous diseases
- CEAP classification and scores application
- Venous thromboembolism
- Venous obstruction and compression
- Venous malformations (Troncular and Extratroncular)
- Venous tumors
- Venous emergencies
- Lymphatic disorders.

1.3 *Diagnostic evaluation: Knowledge and practical experience on:*

- Physical examination
- Edema assessment
- Ultrasound evaluation of veins and arteries, including duplex and triplex
- Dynamic venous function tests
- Plethysmography
- Diagnosis of deep venous thrombosis
- Application of CEAP scores and Quality of Life assessment
- Patient reported outcome measures (PROMs).

1.3.1 *Knowledge of principles, indications and assessment on:*

- Capillaroscopy, Po2/Pco2, Laser Doppler
- Magnetic resonance imaging (MRI)
- Computed tomography (CT)
- Contrast Venography
- Laboratory tests.

1.4 *Treatment: Knowledge and clinical experience on:*

- Counselling of life style, behaviour and diet
- Conservative therapy
- Pharmacological treatment of chronic venous diseases
- Compression therapy (Bandages, Stockings, Pneumatic Compression etc.)
- Wound care
- Percutaneous venous access
- Sclerotherapy
- Ultrasound Guided Sclerotherapy UGS
- Endovenous ablation: Thermal ablations (Radio-frequency RF, Laser EVLA), Mechano-chemical ablation (MOCA, Endovenous Glue, LAFOS®, and similar methods)
- Pharmacological treatment of venous thromboembolic diseases

- Treatment of venous emergencies and complications.

1.4.1 *Knowledge of principles, indications and assessment on*

- Superficial and deep veins Open Surgery
- Endovascular procedures for obstruction and reflux
- Anesthetic procedures in venous therapy.

1.5 *Other competences*

- Epidemiology
- Statistics
- Evidence-based medicine
- Critical literature analyses.

2. Disease management.

- Manage clinical, diagnostic and therapeutic protocols for Venous Diseases
- Apply commonly used scoring systems and PROMs for assessment of severity of ill-ness/risk
- Evaluate each time the benefit-risk balance of the prescribed treatment report
- Manage the acute medical conditions in phlebological patient
- Identify the implications of relevant chronic and co-morbid disease
- Identify and minimize risk of adverse events and complications
- Critically apply guidelines and recommendations
- Identify and manage risk factors
- Interact with General Practitioners and organize patient's follow-up
- Organize and take part in patient education
- Take active part in preventive measures and promote safe life styles for patients and population
- Facilitate multidisciplinary collaboration.

3. Diagnosis.

- Obtain a history and perform an accurate clinical examination
- Undertake timely and appropriate investigations
- Perform and interpret Vascular Ultrasound and other vascular and microvascular as-sessments
- Interpret clinical Vascular Imaging
- Define investigations for multiorgan localization also in collaboration with the other specialists
- Integrate clinical findings with instrumental and laboratory investigations
- Obtain appropriate microbiological samples and interprets results
- Stimulate interaction and collaboration with the Specialists involved in Phlebology (Surgeons, Vascular Surgeons, Cardiologists, Radiologists, Dermatologists, etc.) in re-spect of each reciprocal competence.

4. Practical procedures.

- Perform Ultrasound assessment for deep and superficial venous system
- Perform Ultrasound assessment for peripheral arteries
- Perform Ultrasound assessment for abdominal veins and arteries
- Apply Compression therapies

- Perform or indicate therapies for Venous Ulcers
- Perform or indicate Sclerotherapy
- Perform or indicate Ultrasound Guided Sclerotherapy (UGS) for Varicose Veins
- Perform or indicate Endovenous ablations for Varicose Veins
- Perform or indicate superficial and deep veins Open Surgery
- Perform or indicate Endovascular procedures for obstruction and reflux
- Manage the assessment, prevention and treatment of Venous Symptoms
- Manage the assessment, prevention and treatment of superficial and deep Venous Thrombosis
- Manage Microcirculatory assessment (capillaroscopy, Po2/Pco2, Laser-doppler)
- Describe indications for laboratory venous risk assessment
- Stimulate interdisciplinary approach to establish indications for Venous Surgery, pre-operative work-up, aftercare.

5. Professionalism.

- Communicate effectively with patients and relatives
- Communicate effectively with members of the health care team
- Maintain accurate and legible records/documentation
- Involve patients in decisions about care and treatment
- Demonstrate respect of cultural and religious beliefs and an awareness of their impact on decision making
- Respect autonomy, privacy, dignity, confidentiality and legal constraints on the use of patient data
- Collaborate and consult; promote team-working
- Ensure continuity of care through effective hand-over of clinical information
- Take responsibility for safe patient care
- Formulate clinical decisions with respect for ethical and legal principles
- Seek learning opportunities and integrate new knowledge into clinical practice
- Maintain independence from economical interest.

2. Organisation of training.

a.Schedule of training.

Composition and duration of training.

European Core Curriculum could be considered for the basic content of the national training programme. We can distinguish 5 groups of trainees in Phlebology:

1. General Practitioners (GP) without specialization
2. Specialists in a remote specialization
3. Specialists in related medical branches: Cardiology, Dermatology, General Surgery, Internal Medicine, Radiology
4. Specialists in: Angiology/Vascular Medicine, Vascular Surgery
5. Certified Experts in Vascular Surgery or Vascular Medicine by the NMA's

The Core Curriculum recommends for the trainees certified times of training and the direct participation in collaborative research projects in an accredited Phlebological Center, a clinical education in a certified institution with personal experience in an adequate number of

procedures of the above listed items seems to be adequate to gain personal knowledge, clinical experience and personal skills as preconditions to become a Phlebologist.
The Core Curriculum foresees the training on all the aspects of competence in Phlebology and defines the minimum requirements for the main skills, in accordance with national rules and EU legislation.
Study leave.
During their training programme, trainees should be facilitated to be completely relieved of their clinical duties in order that they can take study leave to attend conferences and other educational activities outside their training unit.

b.Curriculum of training.

Certified Levels of competency are foreseen:

1. Level 1: able to choose the procedure, interpreting the results - Knowledges in Basic sciences, Clinical sciences, Diagnostic evaluation - Procedures: basic Ultrasound Assessment, Pharmacological Therapies and Compression Therapy;
2. Level 2: Level 1 competences plus able to perform some procedures in accordance of the specialization achieved and or the national rules and EU legislation, autonomy in all the competences, also in complicated cases.

Decision-making autonomy in the management of venous disorders and risk factors, from the diagnostic, therapeutic and organizational points of view will be reached through training. The trainee should follow clinical cases on all the relevant specialist diseases.
The activity will be recorded in a Log-Book and evaluated in terms of the acquired expertise.
The trainees have different backgrounds, for this reason the duration of the training is different for the 5 groups of trainees. The Specialists in related medical branches (group 3), in Angiology/Vascular Medicine, Vascular Surgery (group 4) and the Certified Experts in Vascular Surgery or Vascular Medicine by the NMA's (group 5) have already achieved such a skill and competencies as to require less time to reach CDP level 1 of training in Phlebology.
The minimum durations of the training for the 5 groups of trainees are:

- Group 1:
- 12 months to reach Level 1
- Group 2:
- 12 months to reach Level 1
- Group 3:
- 6 months to reach Level 1
- Group 4:
- 6 months to reach Level 1
- Group 5:
- 6 months to reach Level 1

For all groups: the duration of the training to reach the Level 2 is 12 months, because the advanced phlebological procedures (e.g. USG, Thermal endovenous ablations etc.) require more training time for all trainees to achieve skill and competence.
The Competency Degree in Phlebology CDP is also suitable for trainees with multiplex Specializations and/or Certified expertises, the minimum feasible duration of the training will be in accordance with the rules established for the Groups of trainees.

Skills - Number of procedures required.

•Perform Ultrasound assessment for deep and superficial venous system to reach Level 1:

- Complete Venous Duplex Assessment with mapping

Minimum 50 personally performed

- Complete Venous Duplex in CVD evaluation

Minimum 30 personally performed

- Venous Duplex Assessment in DVT evaluation

Minimum 20 personally performed

- Ultrasound assessment for peripheral arteries

Minimum 20 personally performed

- Ultrasound assessment for abdominal veins and arteries

Minimum 20 personally performed

•Perform Plethysmography for deep and superficial venous system:

Minimum 5 as observer (including the possibility to follow recorded training sessions) to reach Level 1

Minimum 10 personally performed to reach Level 2

•Perform Bandaging

Minimum 30 personally performed to reach Level 1

•Give indications and perform treatments for venous ulcers

Minimum 20 as observer (including the possibility to follow recorded training sessions) to reach Level 1

Minimum 20 personally performed to reach Level 2

•Perform or indicate Sclerotherapy/UGS for Varicose Veins

Minimum 20 as observer (including the possibility to follow recorded training sessions) to reach Level 1

Minimum 30 personally performed for each technique to reach Level 2

•Perform or indicate Endovenous ablation for Varicose Veins (Thermal and Chemical ablation)

Minimum 20 as observer (including the possibility to follow recorded training sessions) to reach Level 1

Minimum 20 personally performed for each technique to reach Level 2

•Perform or indicate Phlebectomy

Minimum 5 as observer (including the possibility to follow recorded training sessions) to reach Level 1

Minimum 10 personally performed to reach Level 2

•Patients education sessions

Minimum 20 personally performed to reach Level 1

•Describe indications for laboratory risk assessment

Also requested Level 1 to provide interpretation: Angiography, AngioTAC, AngioMRI, Phlebography, Lymphography and Nuclear Medicine techniques, in interaction with Radiologists.

3. Curriculum in Phlebological Procedures.

Phlebological Procedures is an area of treatment common to more than one Specialty (Angiology/Vascular Medicine, Cardiology, Dermatology, General Surgery, Internal Medicine, Radiology, Vascular Surgery).

The trainees have different backgrounds, skills and competencies, for this reason the CDPP training is different for the 5 groups of trainees, as required for the CDP training.

The Competency Degree in Phlebological Procedures CDPP requires an accurate knowledge in Clinics and Ultrasound and is suitable for:

- Trainees with CDP Level 1 (Techniques 1, 2)
- Trainees with CDP Level 1-2 with Specialization in Angiology/Vascular Medicine, Cardiology, Dermatology, Internal Medicine (Techniques 1, 2, 5)
- Trainees with CDP Level 1-2 with Certified Expertise in Vascular Medicine by the NMA's (Techniques 1, 2, 5)
- Trainees with CDP Level 1-2 with Specialization in General Surgery, Vascular Surgery (Techniques 1, 2, 3, 4, 5)
- Trainees with CDP Level 1-2 with Certified Expertise in Vascular Surgery by the NMA's (Techniques 1, 2, 3, 4, 5)
- Trainees with CDP Level 1-2 with Specialization in Radiology (Technique 5)
- Specialists in Angiology/Vascular Medicine, Cardiology, Dermatology, Internal Medicine (Techniques 1, 2, 5)
- Certified Experts in Vascular Medicine by the NMA's (Techniques 1, 2, 5)
- Specialists in General Surgery, Vascular Surgery (Techniques 1, 2, 3, 4, 5)
- Certified Experts in Vascular Surgery by the NMA's (Techniques 1, 2, 3, 4, 5)
- Specialists in Radiology (Technique 5)

The Competency Degree in Phlebological Procedures CDPP is also suitable for trainees with multiplex Specializations and/or Certified expertises, the available Techniques are those indicate for each group.

The duration of the training is 6 months for Techniques 1-2-3.

The duration of the training is 12 months for Techniques 4-5.

Each European Training Center in Phlebology (ETCP) can decide to reduce these times for recognized certified professional skills of the trainee to 4 months for Techniques 1-2-3, to 8 months for Techniques 4-5.

1. Techniques concerned:

1. Ultrasound Guided Sclerotherapy UGS
2. Endovenous thermal ablations (Radio-frequency RF, Laser EVLA), Mechano-chemical ablation (MOCA, Endovenous Glue, LAFOS® and similar methods)
3. Superficial veins Open Surgery
4. Deep veins Open Surgery
5. Endovascular procedures for obstruction and reflux

2. Prerequisites:

2.1 Required:

- Extensive clinical knowledge of superficial venous disease
- Preliminary training in venous ultrasound

2.2 Recommended:

- Practice venipuncture under ultrasound guidance (e.g. UGS)

2.3 Recommended:

- Practice the technique of phlebectomy

3. Contents.

3.1 Theoretical Education:

Theoretical:

- Physical principles of different techniques
- Therapeutic indications
- Therapeutic strategy
- Complications
- Contra-indications

Conditions:

- Environment
- Hygiene
- Specific Equipment

3.2 Teaching practice:

- Ultrasound-guided puncture
  Overview of puncture's material (introducers)
  Puncture phantom
- Use of devices
  Presentation of different materials: RF , EVLA, etc
  Hands-on phantom (guides, catheter fibers)
- Tumescent anesthesia
  How to do it (syringe pump)
  Hands-on phantom (if possible)
- Analysis procedures (video and live)
  Tips and Tricks
- Management of technical difficulties (navigation ...) and difficulties related to the patient (stress, needle phobia...)
- Management of complications
- Clinical cases
  Discussion of the technique
  Discussion of practical modalities of realisation (venous access catheter placement or fibre)
- Attend "live" procedures in:
  Saphenous veins GSV and SSV
  Intervene actively on procedures (all or part of the proceedings: vein puncture under ultrasound guidance , navigation of the thermal probe, tumescent anaesthesia, firing and pull back).

<u>Skills - Number of procedures required.</u>

•Perform Sclerotherapy/UGS for Varicose Veins

Minimum 30 personally performed

•Perform Endovenous thermal ablations (Laser EVLA)
Minimum 30 personally performed
•Perform Endovenous thermal ablations (Radio-frequency RF)
Minimum 30 personally performed
•Perform Mechano-chemical ablation (MOCA, Endovenous Glue, LAFOS®, and similar methods)
Minimum 20 personally performed for each technique
•Perform Open superficial Venous Surgery
Minimum 30 personally performed
•Perform Open deep Venous Surgery
Minimum 30 personally performed
•Perform Endovascular procedures for obstruction and reflux
Minimum 30 personally performed

4. Assessment and evaluation.

Postgraduate medical training must include a process of assessment.The methods used for assessment of trainees, including the criteria for passing examinations or other types of assessment must emphasize formative in-training methods and constructive feedback. Assessment principles, methods and practices must be clearly compatible with training objectives. The methods used should encourage a constructive interaction between clinical practice and assessment. Assessment should include methods that cover knowledge, skills and attitudes in order that a broad picture of a trainee's clinical competence and ability to pratice safely is obtained. It gives an evidence that traineer is meeting the curriculum and in the meantime identify areas for additional training.
Personal Log-Book is part of the evaluation.

CESMA-UEMS.

Trainees are invited to apply for the UEMS European Exam to obtain the UEMS European Diploma of Competency Degree in Phlebology CDP, following the application criteria defined by the European Board Examination in Phlebology (EBEP) formed by representatives from the European Board of Phlebology EBPh, Multidisciplinary Joint Committee in Phlebology MJCP and related UEMS Divisions/Sections.
Eligibility for EBSQ Phlebology Examination is open for candidates trained in one of the 28 European Union countries, a non-EU UEMS member country (Iceland, Norway and Switzerland) or an associated UEMS country (Armenia, Israel and Turkey) or a country with UEMS observer status (Georgia, Lebanon). Eligibility is also open to those candidates trained outside the UEMS-area provided that the relevant MJCP/EBPh is satisfied with the training and qualifications are equivalent. The decision is at the discretion of the Eligibility Committee of the MJCP/EBPh. It is the responsibility of the candidate to ensure they present themselves fit and prepared for the Examination, also from the perspective of professionalism and probity. Any changes or problems in this regard must be communicated to the Chairperson of the EBSQ Phlebology Examination and also the Eligibility Committee. Failure to do so could result in the result of the Examination being declared null and void.

There is no limit to the number of attempts that can be made. Training programmes success is more likely if the examination is taken at the end of the time of training.
Candidates should fulfill the CDP/CDPP criteria of the organization of training.
The Exam consists of 2 parts: one computerized 100 MCQ and a second oral with the discussion of clinical cases.
The written exam is a multiple choice answers examination. There are 100 questions, with 4 or 5 answers for each question, only one of which is correct. Questions cover the whole spectrum of Phlebology: fundamental etiopathogenetic knowledge, clinic, diagnostic (both non-invasive and invasive), therapeutics (both with drugs and interventional), prognostic and statistic interpretation of medical studies. A database of 200 questions is created, with each of the Commission Members preparing 40 questions. One week before the exam, the referee select 100 questions, that are sent to the central informatic management engineer, who uploads them to the server. Once in the final form, access to the 100 questions database is given to the 5 Commission Members, for revision. Finally, the 100 questions are validated. In the multiple choice questions (MCQ) exam the computers are connected to a central server via internet. Duration of the MCQ exam is two hours. During this time, answers are directly introduced to the computer and centralised to the server. Results of the written exam are later forwarded to the Commission, after the clinical exam takes place. The results are expressed as a number of correct answers (out of 100). The written exam grade was represented by the number of correct answers divided by ten.
The second part of the exam is the clinical case.
Three members of the EBEP prepare the clinical cases: clinical cases consist in the presentation to the candidates of a clinical history of a real patient. Cases reflect complex clinical conditions, mostly emergency ones. Candidates should evaluate clinical history and offer their interpretation. Candidates have to ask for successive additional information: clinical exam findings, biological results, non-invasive and invasive explorations findings etc. In relation to these results, candidates have to suggest the possible diagnosis, including future evaluation and therapeutic options. The oral exam lasts 30 minutes. At the end of the clinical case exam, each candidate is graded (1-10).
The final exam grade, for each candidate, represents the average of the two grades, the first from the written MCQ exam, the second from the clinical case exam.
The Commission requires a final grade of at least 6.5 (on a 1-10 scale), in order to validate the exam.
The same examination system is adopted for the UEMS European Diploma of Competency Degree in Phlebological Procedures CDPP, the number of questions of the written exam is reduced to 50.
Questions cover the whole spectrum of the Phlebological Technique subject of the exam: fundamental technical knowledge, indications, contra-indications, adverse effects, results, prognostic and statistic interpretation of medical studies. A database of 100 questions is created, with each of the Commission Members preparing 20 questions. One week before the exam, the referee select 50 questions, that are sent to the central informatic management engineer, who uploads them to the server. Once in the final form, access to the 50

questions database is given to the 5 Commission Members, for revision. Finally, the 50 questions are validated. In the multiple choice questions (MCQ) exam the computers are connected to a central server via internet. Duration of the MCQ exam is one hour.
The second part of the exam is the clinical case. Three members of the EBEP prepare the clinical cases: clinical cases consist in the presentation to the candidates of a clinical history of a real patient. Cases reflect complex clinical conditions, mostly emergency ones. Candidates should evaluate clinical history and offer their interpretation. Candidates have to ask for successive additional information: clinical exam findings, biological results, non-invasive and invasive explorations findings etc. In relation to these results, candidates have to suggest the possible diagnosis, including future evaluation and therapeutic options. The oral exam lasts 30 minutes.
At the end of the clinical case exam, each candidate is graded (1-10).
The final exam grade, for each candidate, represents the average of the two grades, the first from the written MCQ exam, the second from the clinical case exam.
The Commission requires a final grade of at least 6.5 (on a 1-10 scale), in order to validate the exam.
The EBEP must ensure that assessment and certification during training is transparent, that both trainee and trainer have agreed responsibility and accountability, and that there is a possibility of appeal by a defined procedure (Appendix 2).

II. TRAINING REQUIREMENTS FOR TRAINERS.

Trainers must be recognized by the EBPh to have the relevant requirements and the curriculum to participate the CDP/CDPP trainings as Programme Director, Educational Supervisor, Tutor, Instructor. The recognition is a dynamic process and the curriculum will be updated every two years or at the request of the Programme Director.

1. Appointment Policy.

All physicians should as part of their professional obligations recognize their responsibility to participate in the practice-based postgraduate training of medical doctors. Participation in postgraduate training should be rewarded. Staff policy should ensure that teachers are active in the relevant field and that teachers in sub-areas are only approved for relevant specific periods during training.

2. Obligations and development of Trainers.

Teaching activities must be included as responsibilities in the work schedules of trainers and their relationship to work-schedules of trainees must be described. The ratio between the number of recognized trainers and the number of trainees should ensure close personal interaction and monitoring of the trainee. The trainer must carry out a recognized scientific activity by publishing papers, giving lectures on local or international congresses.
A trainer should:

1. know all aspects of the overall Phlebology curriculum and the problems related to its clinical implementation;

2. have experience in teaching theoretical aspects of phlebological diseases and acquisition of skills in procedures;
3. be familiar with modern medical education principles and receive regular updates in leadership and mentorship;
4. understands the needs of the trainee to achieve the goals of the training programme and helps him/her to progress throughout the training period;
5. be able to promote in his/her mentee scientific curiosity as well as professionalism, ethical behaviours and humanistic values.

The members of the faculty should be experienced both as Phlebologists and teachers, committing time, effort and enthusiasm to the training programme. They should regularly attend interdisciplinary meetings. The faculty should be large enough to supervise the clinical and practical work of the trainees.

3. Programme Director.

The Programme Director must:

- have at least 5 years of participation as an active faculty member in Phlebology educational programme;
- be certified in Phlebology activity (or Specialist in a discipline of the Group 3-4 or CESMA-UEMS European Diploma);
- be responsible to the sponsoring organization;
- oversee and organize the activities of the educational program in all institutions that participate in the programme;
- ensure the implementation of fair policies, grievance procedures, and due process are in place in all institutions that participate in the programme;
- have appropriate dedicated time to devote to the program;
- ensure that all training institutions participate in the required quality assurance.

4. Educational Supervisor.

Each trainee must have an Educational Supervisor. One such individual might be responsible for all trainees at one site or alternatively this might be allocated to several individuals.
The Educational Supervisor must:

- be certified in Phlebology activity (or specialist in a discipline of the Group 3-4-5 or CESMA-UEMS European Diploma);
- arrange to meet with each trainee at the beginning, middle and end of each placement or every 2-3 months;
- assess progress and professional development of the trainee;
- ensure that the trainee has access to the training and clinical experience necessary to meet curricular requirements;
- ensure that there is an appropriate balance between service and training;
- check that the necessary work-based assessments are carried out;
- receive feedback from the trainee about the training provided and make necessary changes;
- provide counselling to trainees as appropriate.

III. TRAINING REQUIREMENTS FOR TRAINING INSTITUTIONS.

The European Training Centres (ETCs) must offer training that fit the European quality criteria and programmes suitable for the European Curriculum.
They take part on the educational European programmes (European Master, European Fellowship etc.) and are the reference Centres for training programmes finalized to the UEMS Exam for the UEMS European Diploma of Competency Degree in Phlebology CDP/Competency Degree in Phlebological Procedures CDPP.
They can be formed from one Center or from more institutions with a Center of reference coordinating other smaller Centres or institutions with specific expertise to offer a complete range of educational opportunities.
Training Centres must be recognized by the EBPh to be of such quality as to provide sufficient training for the period of CDP/CDPP training.
Some Centres, with high quality phlebological clinical facilities and training, may lack the full complement of training facilities and opportunities. These Centres may be recognized by the EBPh as a Rotation Training Centre of sufficient merit such that a trainee will receive sufficient training for some procedures. A trainee may therefore fulfil the programme of training by rotating between a numbers of recognized training centres.
In the case of multicentres organization the Center of reference must create an Educational Committee (joining trainers from the different institutions) to coordinate and monitor the educational programme.

1. Process for recognition as European Training Center in Phlebology (ETCP).

Training must be carried out in Certified Centres. Due to the fact that the ETCP could involve more than one institution to cooperate, part of the training could take place in other relevant hospitals or institutions and community-based facilities.
They must have sufficient clinical facilities and infrastructures to support the delivery of training. Training locations must have a sufficient number of patients and an appropriate case-mix to meet training objectives. They must have adequate teaching staff. The training must expose the trainee to a broad range of experience.
The number of patients and the case-mix should allow for clinical experience in all aspects of Phlebology including training in health promotion and disease prevention.
The quality of training settings should be regularly monitored.
The EBPh arranges peer review of training centers to ensure the quality of training centres. Site-visits are the key component for the EBPh to secure the quality of training in Phlebology. They are considered as the most valuable contribution to maintaining high standards of training. Inspections are conducted by two external assessors, nominated by the EBPH. Centers granted approval are re-evaluated every five years. Major changes in the institution should be reported to the EBPh. A diploma will be issued to a training center fulfilling all EBPh requirements, approving it as a Training Centre of the EBPh. A certificate of visitation with a letter of commendation may be issued to a visited training center, fulfilling most but

not all EBPh requirements. The site-visits are intended to encourage the establishment of high quality national training programmes.

Phlebology expertise and organizational integration.

The ETCP must present, in addition to the general characteristics outlined in the other sections of the document, a study format relevant to the training of Tutors which covers the major specialist skills for Phlebology.

Collaboration with Centres is admissible so that any areas not covered by a single Center can be covered by one or more complementary Centres.

A ETCP can be represented by:

- only one Center offering the entire spectrum of training or
- a Reference Center flanked by other Centres (which will be part and parcel of an ETCP) with specific complementary skills or
- by one of the preceding solutions with the integration of minor Centres, even small, but of verified quality, to broaden the clinical training in its more advanced stages;
- these facilities will be considered an integral part of ETCP;
- coordinated multi-site training should be ensured to gain exposure to different areas and management of the discipline.

The training should include an acceptable number of clinical cases within the area of:

•Venous diseases
•Major risk factors
•Preventive activities

It must also ensure:

- educational programmes (also by the existing certified European platform for e-learning);
- meetings;
- research activities;
- computerized bibliographic researches and consultation areas;
- interdisciplinary confrontation to include either meetings on specific topics or discussion of selected clinical cases;
- patient and population education programs;
- contacts/meetings with Family Doctors.

These activities include the use of appropriate instruments.

All equipment should be registered. Some differences exist in European countries.

The list below will be automatically updated to include affirmed scientifically accepted innovative methods:

•Duplex Ultrasound to study the arteries and veins of the upper/lower limbs/abdomen.
•Plethysmography.

Additional Services (mandatory for Training Centres requesting CDP Levels 2 and CDPP):

•Interventional area with radiological equipments AngioTAC and/or AngioMRI, Phlebography, in interaction with Radiologists (Endovascular procedures for obstruction and reflux).
•Facilities for Venous Treatments (open Surgery, Endovenous ablation procedures).

Services related to multidisciplinary approaches must be available in the ETCP to facilitate interactions. In fact, interdisciplinary collaboration with other Units/Departments or specialists are considered part of modern medicine and essential for good phlebological training. In particular twill be stimulated interactions with General Surgery, Vascular Surgery, Radiology, Dermatology, Angiology/Vascular Medicine.

Minimum number of case studies and exams:

In terms of the minimum number of case studies and exams required for a ETCP, the entire offer should be considered, however, the minimum criteria to be considered should be:

•In-patients at the Centre itself or from other departments for consultations or hospitalization (not mandatory, only for Hospitals, CDP Levels 1,2):
Minimum/year n.200

•Out-patient visits and Duplex Examinations (CDP Levels 1,2):
Minimum/year n.500

•Compression therapies (CDP Levels 1,2):
Minimum/year n.200

•Plethysmography (CDP Levels 1,2)
Minimum/year n.50

•Open surgical interventions superficial venous system (CDPP):
Minimum/year n.50

•Open surgical interventions deep venous system (CDPP):
Minimum/year n.50

•Endovenous ablation (CDP Level 2, CDPP):
Minimum/year n.100

•Endovenous procedures deep venous system (CDPP):
Minimum/year n.50

•Sclerotherapy (CDP Level 2, CDPP):
Minimum/year n.200

•UGS (CDP Level 2, CDPP):
Minimum/year n.150

All Venous Diseases should be covered above. Only data from official records (computerization of the structure) will be considered for the validation process.

The ETCP must also ensure that:

1. The instructor(s).

1.1 Required: physician not subject to any judicial procedure or liable of any criminal offence. Practicing the technique in question for at least 3 years, with at least 300 procedures (e.g. Sclerotherapy, UGS, Endovenous Ablation etc.) performed over the last year.

1.2 Recommended: practice of one or several alternative techniques (e.g. surgical, thermal or chemical ablations).

1.3 Recommended: experience in the field of education (provide training of trainers in order to homogenize the educational aspect-specification of skills and items to provide full guidance for the trainer in all his actions).

2. Environment.

2.1 Area (reception, offices, archives, examination rooms, treatment rooms, recovery...) according to legislation in force in the country concerned.

2.2 Equipment and materials:

- Non-specific equipment (general medical equipment, appropriate emergency equipment, containers for medical waste disposal, according to current legislation...)
- Equipment suitable for venous Duplex Ultrasound.

a) Specific tools for Endovenous Ablation techniques (CDP Level 2, CDPP):

- Duplex Ultrasound
- Generators comply with current maintenance certificates
- Goggles and probes for Laser
- Suitable probes, puncture material, catheters, long and short guides
- Masks, caps, scrubs
- Sterile drapes, sterile gowns
- Materials for local anaesthesia, tumescent pump etc.

b) Specific equipment for Sclerotherapy and UGS (CDP Level 2, CDPP):

- Duplex Ultrasound
- Syringes, needles
- Equipment for the manufacture of sterile foam or not (according to legislation).

2.3 Personnel required: none for sclerotherapy; operating room staff during surgical interventions and endovenous ablation/procedures.

2.4 Reception of students.

- Students per trainer
- Opportunity for students to attend the consultation and the process leading to the indication of the technique and the conduct of the procedure and the follow-up consultation
- Encourage the grouping of 2-3 procedures in the same unit of time (1 day or half-day for example)
- Allow the student to actively take part in the diagnosis, the indication and during the procedure; specific work on the incident/accident during the procedure to be ready to react properly in case of difficulties per-procedure
- Evaluation of the training; control theory; practical control (development of a uniform evaluation procedure applicable in all ETCP).

2. Defining a Transition Period.

The development of Phlebology is not the same in all EU countries, even if it is progressing everywhere. On the other hand every applicant should have the same training curriculum and the same chance in each country independently from the current situation. To offer a transition period for those countries that are seriously working on the development of Phlebology, following European standards and at the same time guaranteeing equity for the trainees, the NMA's represented in the Multidisciplinary Joint Committee in Phlebology MJCP and in the European Board of Phlebology EBPh of the UEMS can certify recognized Experts in Phlebology.

The Level of the CDP in Phlebology and the CDPP will be assigned to these Experts by their certified curriculum and in accordance of the CDP/CDPP criteria.
Also specific projects can be developed in the single countries during the validation phase of the CDP/CDPP training and after, if it will be necessary to guarantee the best development of the CDP/CDPP:
1) Recognition of a National Reference Training Center in Phlebology NRTCP formed by one or more than one Center
2) Specific training programs should be made available
3) To have one or more supporting countries where the students can frequent (to complete the formation not available locally/nationally).

3. Training structure.

a) Clinical Training.

The core experience of trainees must provide training in phlebological in and out-patients (investigation, treatment and education) and in the prevention of Venous Diseases.
The learning environment must be favourable and the trainee must have stable defined figures of reference. Trainees must have substantial experience of conducting ward rounds, both under direct supervision of a training physician and independently. Trainees early in the programme will require considerable supervision but this will gradually become less as experience is obtained. All trainees must be able to seek help from a more experienced colleague who must be available to provide on-site support.
Trainees must have primary responsibility for a sufficient number of unselected patients. Clinical experience in Phlebology must be gained as well as in other related disciplines (for defined periods). Trainees must have experience of follow up clinics in order that they understand the natural history of acute illness and care of chronic illness.

b)Procedures.

Trainees must be given instruction in relevant procedural skills. They must be aware of the indications, contraindications, complications, limitations, and interpretations of findings of the procedures commonly undertaken by specialists. They must be given the opportunity to perform the relevant procedures under supervision prior to being judged competent to perform these procedures independently.

c) Educational Programme.

Formal teaching sessions in the form of seminars, grand rounds and case conferences as well as e-Learning material should cover the whole Phlebology curriculum.
International/European and National Guidelines must be available and discussed.

Structure and Human Resources.

•The National Reference Training Centre in Phlebology NRTCP should be a public or private facility (Hospital or University).
•The Head of the Unit should be a specialist in a discipline of the Group 3-4 or a Certified Phlebologist, should have at least 10 years curriculum and publications in this area, given the differences in the distribution of the specialties in Europe.
•Medical staff must be minimum Head + 1 Tutors to train each candidate. Each Tutor should, as a rule, follow a maximum of 3 trainees.

•The role of Programme Director and Educational Supervisor should be identified.
•Technical and nursing staff must be available.
•The NRTCP coordinate the national ETCPs.

Duration of ETCP Accreditation.

Completed the validation process by the European Board of Phlebology EBPh, obtained accreditation from the UEMS Multidisciplinary Joint Committee in Phlebology MJCP, the title will last for 5 years, if during that time no problems arise from the trainers' reports, from eventual intermediate evaluative tests or from staff working at the Centre.
After this period the Centre may apply to renew its accreditation, which will be renewed automatically in absence of negative reports from trainers and trainees and if the Centre maintains its documented standard.

4. Management of training.

The responsibility and authority for organising, coordinating, managing and assessing the individual training setting and the training process must be clearly identified and is the responsibility of the Programme Director and Training Programme team.

a. Requirement on equipment, accommodation.

The trainee must have adequate time and opportunities for practical and theoretical study and have access to adequate professional literature as well as equipment for training of practical techniques. The physical facilities and equipment for training should be evaluated regularly for their appropriateness and quality regarding postgraduate training.

b. Evaluation of Training Process.

Mechanism for programme evaluation feedback from trainees must be incorporated in to the review of the programme. Programme evaluation should address the context of the training process, the structure and specific components of the programme and the general outcomes.

c. Feedback from Trainers and Trainees.

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

5. Assessment.

"The intended output of a competency-based programme is a health professional who can practise medicine at a defined level of proficiency, in accord with local conditions, to meet local needs." World Health Organisation (1978).
At the conclusion of the training programme, the proficiency of a trainee to practise as a Phlebologist should be established.
To be confident that a trainee has acquired the necessary competencies, developmental progression during training should be monitored and assessed.
To this end, milestones and linked Entrustable Professional Activities (EPAs) have been provided to guide decisions about which professional activities have become entrustable du-

ring and at the completion of training; such decisions are based on multiple (specific and observable) workplace based assessments (WBA's) carried out using a range of assessment tools over time.

a. Milestones.

Milestones will be used to mark the progression of competence from the onset of medical training through advanced practice. Milestones reflect the expected ability of a health professional at a given stage of expertise. They provide clearly defined targets to guide authentic learning and assessment. Milestones serve as a framework to inform and guide the development of the curriculum, the choice of assessment methods and instruments, and assessment by the supervising body.

The milestones of Phlebology are a learning road map of competency statements to be embedded in the local curriculum. Each milestone is framed as an observable behaviour to facilitate criteria-based assessment of competence. They must be set in a clinical context and this enables trainees to focus their learning activities more effectively. Milestones are key elements of a larger "whole" of clinical competence. Substantial professional judgment, on the part of the supervising body is still required to assess a trainee's overall fitness to practice. Milestones for Phlebology are those specify in the paragraph "Competencies required of the trainee" at points 2-5, they must be added to the other professional skills.

b. Entrustable Professional Activities (EPAs).

EPAs place competencies in the physician's every day work. They consist of daily professional activities, namely a set of tasks that the physician perform in their clinical role, that lead to some outcome that can be observed, e.g. taking care of a specific group of patients in a ward etc. The complexity of these activities requires an integration of knowledge, skills and attitudes across (several) competency domains. The assessment system is then tailored towards measuring entrustment of specific practice activities.

The following criteria are suggested for EPAs which:

- are part of essential professional work;
- require specific knowledge, skills and attitude;
- are generally acquired through training;
- lead to recognised output of professional labour;
- are usually confined to qualified staff;
- are independently executable within a time frame;
- are observable and measurable in their process and their outcome;
- lead to a conclusion (done well or not done well);
- reflect the competencies to be acquired.

There is typically overlap in many of the curricular milestones and, therefore, it is not necessary to choose every potential milestone when constructing an assessment for an EPA.

The milestones and competencies chosen should be tailored to the specific training programme based upon the local resources, rotation structure, and existing culture.

More importantly, both trainees and supervisors should develop a "shared mental model" of the desired performance through group conversations about expectations.

EPAs help to make formal entrustment decisions through direct observation of pre-determined tasks and not random aspects of performance. EPAs are summative assessments and it

is necessary for trainees to be entrusted with particular EPAs as they progress through training. EPAs are not set to assess every professional activity that trainees engage in; rather they assess a representative sample of the professional activities in which trainees must attain competence. EPAs are broad responsibilities that may, however, include smaller ones. For a broad specialty such as internal medicine, this could mean hundreds of EPAs over the course of training. Therefore a list of 40 comprehensive EPAs is provided, each of which can be viewed as consisting of smaller, more elementary EPAs, and serves as an example (Training Requirements for the Specialty of Internal Medicine-European Board of Internal Medicine, Brussels Feb. 22, 2016).

EPAs should be identified in each (local) training programme and should represent a set of tasks that the trainee should perform during training. It is suggested that all EPAs should follow a common template (Appendix 3). An example of how to build assessments for end of training EPAs, is provided by the Alliance for Academic Internal Medicine.

A limited number of carefully selected EPAs is recommended for Phlebology :

1. Manage the care of patients with complex medical conditions, and/or co-morbidities, across multiple care settings;
2. Provide medical consultation to non medical specialties;
3. Obtain initial history, perform physical examination, and formulate a management plan for a new ambulatory patient in continuing care;
4. Provide continuity of care and conduct interim visits for primary care patients with multiple chronic conditions;
5. Manage the care of patients with chronic conditions across multiple care settings;
6. Lead a team in managing multiple inpatients and work with multidisciplinary teams;
7. Facilitate the understanding of patients, their families, and members of the multidisciplinary team;
8. Recognise and diagnose common non-medical conditions (i.e. surgical, neurological, dermatologic, etc.) and refer appropriately to other specialty care;
9. Organise and maintain information and knowledge through medical practice to improve personal development when delivering care and educating others (scientific activity);
10. Counsel patients appropriately;
11. Develop and implement a management plan based on review of outcome data for ambulatory patient population;
12. Perform common procedures in phlebology (ultrasound etc.);
13. Undertake a research project (e.g. a degree or diploma, quality improvement, educational opportunity, other);
14. Demonstrate professional behaviour at all times.

c. The assessment system and the entrustment process.

The purpose of the assessment system is to facilitate learning by providing formative feedback, to drive the training process by identifying what areas the trainees should focus on to improve their performance.

The assessment system should provide robust evidence that trainees meet the training requirements detailed in the curriculum.

Assessment and documentation of skills comprises knowledge-based assessments, workplace-based assessments and a Log-Book.
A portfolio is used to document the achievements and the progress of the trainee during the training period. Progress is guided by the milestones reached and the linked EPAs.
Progress of trainees is monitored by a synthesis of assessments (summative feedback) obtained during rotations to ensure that enabling competencies are acquired at a desired stage and are sustained and developed further through subsequent rotations.
To entrust a clinical activity as described in an EPA, the educational supervisor draws on all the available data regarding a trainee's competence in that particular task, including his or her performance in relevant workplace-based assessments (WBAs) and information from other staff or sources (multisource feedback).
To ensure a broad evidence base, a minimum of three WBAs must be used to assess each EPA. This does not mean that a trainee must complete three WBAs on the same activity as that of the EPA. Training environments are clinically diverse so WBAs on any aspect of a task relevant for a particular EPA but linked to another clinical activity may thus be extrapolated to be valid for that EPA as well.
Workplace-based assessments (WBAs) include:

1. Case-based discussion
2. Observed clinical activity:

- Medical record review
- Hand-over
- Daily report
- Patient examination
- Patient presentation (multidisciplinary meeting)
- Direct observation of procedural skills (DOPS).

In addition other assessments, which may inform the entrustment process may include:

1. Professional presentation:

- Critical appraisal
- Scientific papers
- Scientific meetings.

The degree of supervision determines the decision to entrust the trainee.
Entrustment of professional activities is documented in a portfolio.
The levels of supervision are:

- Observation but no execution, even with direct supervision
- Execution with direct, proactive supervision
- Execution with reactive supervision, i.e. on request and quickly available
- Supervision at a distance and/or post hoc
- Supervision provided by the trainee to more junior colleagues.

<u>European Diploma of Phlebology.</u>
Other UEMS Boards have successfully established European examinations that are accepted as requirements for certification or accepted as an equivalent.
It is anticipated that the development of a European Diploma of Phlebology will be developed in due course following the introduction of this curriculum.

6. Continuous Renewal.

The process of renewal should be based on prospective surveys, analyses and audits that should lead to the revisions of the policies and practices of the postgraduate medical training programmes in accordance with past experience, present activities and future perspectives. In so doing it should address the following issues:

•Adaptation of the mission and outcome objectives of postgraduate training to the scientific, socio-economic and cultural development of the society

•Modification of the competencies required on completion of the postgraduate training programme in Phlebology in accordance with the needs of the environment the newly trained doctor will enter

•Adaptation of the learning approaches and training methods to ensure that these are appropriate and relevant

•Development of assessment principles and methods according to changes in training objectives and methods

•Adaptation of recruitment and policy of appointment of supervisors and teachers according to changing needs in postgraduate training

•Updating of training settings and other educational resources to changing needs of postgraduate training, i.e. the number of trainees, number and profile of trainers, the training programme and contemporary training principles

•Refinement of the process of training programme monitoring and evaluation

•Adjustment of the structure, content and duration of training programmes in keeping with the developments in the basic biomedical sciences, the clinical sciences, the behavioural and social sciences, and changes in the demographic profile and health or disease pattern of the population, and in socio-economic and cultural conditions.

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