**UEMS**

**THE EUROPEAN SECTION AND BOARD OF PATHOLOGY**

**Training Requirements for Specialty of Pathology**

European Standards of Postgraduate Medical Specialist Training

The Training Program

The Blue Book in Pathology

2025

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**Glossary**

AEMH Association Européenne des Médecins Hospitaliers

CanMEDS Canadian Medical Framework Project

CESMA Council of European Specialist Medical Assessment

CTF Common Training Framework

CPME Comité Permanent des Médecins Européens

EACCME European Accreditation Council for CME

EPAs Entrustable Professional Activities

EU European Union

UEMS Union Européenne des Médecins Spécialistes,

ETR European Training Requirements

ESP European Society of Pathology

EFCS European Federation of Cytology Societies

EJD European Junior Doctors (representing doctors in training)

FEMS Federation of European Salaried Doctors

FESB European Section and Board of Pathology

HRQoL Health-Related Quality of Life

MJCs Multidisciplinary Joint Committees

NMCAs National Medical Competent Authorities

PROs Patient-Reported Outcomes

UEMO European Union of General Practitioners

**UEMS 2025**

**I. INTRODUCTION**

**1. UEMS Preamble**

The UEMS (Union Européenne des Médecins Spécialistes, or European Union of Medical Specialists) is a non-governmental organization representing national associations of medical specialists at the European level. With its current membership of 40 national associations and operating through 43 Specialist Sections and their European Boards, 17 Multidisciplinary Joint Committees and 4 Thematic Federations the UEMS is committed to promote the free movement of medical specialists across Europe while ensuring the professional consensus on the framework for the highest possible level of their training which will pave the way to the improvement of quality of care for the benefit of all European citizens and beyond.

**UEMS and its Postgraduate Medical Specialists Training program.** In 1994, the UEMS adopted its Charter on Postgraduate Training aiming at providing the recommendations at the European level for high quality training. This Charter set the basis for the European approach in the field of harmonization of Postgraduate Specialist Medical Training, most importantly with the ongoing dissemination of its periodically updated Chapter 6’s, specific to each specialty. After the most recent version of the EU Directive on the recognition of Professional Qualifications was introduced in 2011, the UEMS Specialist Sections and other UEMS Bodies have continued working on developing the documents on European Training Requirement(s) (ETRs). They reflect modern medical practice and current scientific findings in each of the specialty fields and particular competencies covered and being represented within the UEMS. In 2012 the UEMS Council adopted the document Template Structure for ETR.

**The linkage between the quality of medical care and quality of training of medical professionals.** It is the UEMS' conviction that the quality of medical care and expertise are directly linked to the quality of training, achieved competencies and their continuous update and development provided to the medical professionals. No matter where doctors are trained, they should have the same core competencies. The UEMS ETRs reflect many years (or even decades) of experience on the ground of the UEMS Sections/ Multidisciplinary Joint Committees (MJCs) and Boards developing in close collaboration with the relevant European Scientific Societies training requirements coupled with European Medical Assessments. It is one among the clear aims of the UEMS ETRs to raise standards of training to make sure that European patients find high quality standards of safe specialist care. While professional activity is regulated by national laws in EU Member States, it is the UEMS understanding that it has basically to comply with international treaties and UN declarations on Human Rights as well as the WMA International Code of Medical Ethics.

**UEMS and European legislation facilitating the mobility of medical professionals.** The UEMS Council and its Specialist Sections, first created in 1962, have regularly provided advice and expert opinion to the European Commission. This helped create the framework that informed the drawing up of the Doctors Directives in 1975, which provided for the mutual recognition of medical diplomas and the free movement of doctors throughout the EU. The revised EU Directive on the recognition of Professional Qualifications (2013/55/EU) allows member states to decide on a common set of minimum knowledge, skills and competencies that are needed to pursue a given profession through a Common Training Framework (CTF) which represents the third mechanism that could be used to ensure mobility within the EU. This directive states that “professional qualifications obtained under common training frameworks should automatically be recognized by Member States. Professional organizations which are representative at Union level and, under certain circumstances, national professional organizations or competent authorities should be able to submit suggestions for common training principles to the Commission, in order to allow for an assessment with the national coordinators of the possible consequences of such principles for the national education and training systems, as well as for the national rules governing access to regulated professions”. The UEMS supported CTFs since they encompass the key elements developed in modern educational and training models, i.e. knowledge, skills, professionalism. In addition, the Directive 2011/24/EU of the European Parliament and of the Council of 9 March 2011 on the application of patients’ rights in cross-border healthcare introduced a strong incentive for harmonization of medical training and achieved competencies among EU/EEA Countries through the requirements to assure good and comparable quality of care to increasingly mobile European citizens.

The UEMS ETR documents aim to provide for each specialty the basic training requirements as well as optional elements, and should be regularly updated by UEMS Specialist Sections and European Boards to reflect scientific and medical progress. The three-part structure of these documents reflects the UEMS approach to have a coherent pragmatic document for each individual specialty, not only for medical specialists but also for decision-makers at the national and European level interested in knowing more about medical specialist training. To foster harmonization of the ETR by adopting more specific guidelines, the CanMEDS competency framework is recommended which defines the entire set of roles of the professionals which are common across both medicine and surgery, namely Medical Expert, Communicator, Collaborator, Leader, Health Advocate, Scholar and Professional (https://www.royalcollege.ca/en/standards-and-accreditation/canmeds.html). UEMS has an agreement to use an abbreviated version of the competencies within those roles.

**Importance of making a distinction between Knowledge and Competency in ETR documents.** Competency-based education is not oriented towards the period of clinical rotations, but towards trainee, and trainee’s progress in the acquisition of competencies. Having a clear distinction within an ETR’s contents between competencies and knowledge helps define both how that training should be delivered and how it should be assessed. The UEMS considers that the appropriate use of different methods of assessment of knowledge and acquired skills, emphasizing the workplace-based assessment, is an essential component of quality postgraduate training, focused on high standards of specialist medical practice. To improve the methods of assessment it is also recommended to use the so-called Entrustable Professional Activities (EPAs) in all specialties ETRs. In order to recognize common and

harmonized standards on the quality assurance in specialist training and specialist practice at a European level some UEMS Specialist Sections and Boards also have, for a long time, organized European examinations (supported and appraised by the UEMS CESMA - Council of European Specialist Medical Assessments).

**Overlapping of learning outcomes and competencies.** Each of the UEMS ETRs defines a syllabus or knowledge base and describes learning outcomes defined for given competencies. Some of these curricula encompass a whole specialty, others focus on areas within or across specialties and define content of the training requirements for specific areas of expertise. By recognizing the potential overlapping it creates the opportunity for those writing ETRs to draft overlapping or common goals for learning outcomes. Similar measurement does not necessarily equate to the same targets. Rather, across different specialties the final goal may differ, i.e. there may be clearly defined individual goals for trainees with different expectations.

**UEMS ETRs and national curricula.** The UEMS strongly encourages the National Medical Competent Authorities (NMCAs) to adopt such requirements and believes that this is the most efficient way of implementation of good standards in postgraduate training. We clearly respect and support the vital role of the NMCAs in setting high standards of training and care in their respective Countries and checking through robust quality control mechanisms the qualifications of medical specialists moving across Europe. The UEMS ETRs are developed by professionals for professionals and this adds unique value to them. UEMS aim is to indicate the knowledge and competencies that should be achieved by trainees in EU/EEA countries and also competencies and organization of the training centers. The training environment and results described in UEMS ETRs may be achieved in adapted ways, depending on local traditions, organization of the healthcare system and of medical specialist training. Adaptation of UEMS ETRs to local conditions assures the highest quality of specialist training and each state may include additional requirements, depending on local needs.

**Importance of collaboration with other representative European medical bodies.** The UEMS always wishes to work with all Colleagues, NMAs, professional and scientific organizations across Europe. In the process of ETRs development, the UEMS recognizes the importance of meaningful collaboration with the other European medical representative bodies, the European Junior Doctors (EJD representing doctors in training), the European Union of General Practitioners (UEMO – Union Européenne des Médecins Omnipraticiens), the Standing Committee of European Doctors (CPME - Comité Permanent des Médecins Européens), the Federation of European Salaried Doctors (FEMS) and the European Association of Senior Hospital Doctors (AEMH - Association Européenne des Médecins Hospitaliers). In addition, UEMS continues to develop closer links with the many European specialist societies. UEMS, in collaboration with its fellow European representative bodies, has constantly been highlighting the importance of coordinated postgraduate specialist medical training program, always accepting the differing needs of different specialties. In this way quality medical care is delivered by highly qualified medical specialists - essential to ensuring consumer confidence and protection all over Europe.

**Conclusions.**

UEMS is very proud of all the hard work that has been done until now in developing the UEMS ETRs as well as that they are increasingly implemented as national curricula. However, we also recognize the need for constant improvement, and we are always open to further suggestions. The UEMS insists that the medical profession remains the driver in defining its own specialist training and continuous professional development needs. On this basis, we sincerely look forward to working with the key European Union responsible bodies, as well as the national stakeholders in implementing the basic common strategies and requirements outlined with this initiative. We are confident that the priorities detailed in UEMS ETR documents developed for individual specialties (and/or competencies) will become evident in national strategies and program, as well as action plans for postgraduate medical education and training.

**2. Specialty of Pathology**

**(DEFINITION OF THE SPECIALTY)**

Pathology is the branch of medicine involved in the cellular and tissue diagnosis of diseases. It represents the bridge between basic/translational research and clinical medicine; it encompasses every aspect of patient care, from morphologic diagnostic approach as well as additional testing protocols and treatment advice, to cutting-edge genetic and molecular technologies.

Pathology is a specialty in which timing, pre-analytical and technical procedures are critical, in the everyday routine practice and when during open surgery the modality choice and the rapid on-site evaluation of a frozen section or a cytologic sample require skills and highest scientific preparation of the dedicated PS. Same is crucial for so called surgical pathology for specimens received from operation theater or other surgical procedure, also.

Pathology encompasses knowledge and skills of surgical pathology, autopsy pathology and cytopathology and additional competences in areas of special interest such as dermatopathology, forensic pathology, neuropathology, pediatric pathology, cardiovascular pathology and paleopathology.

**3. Aims of Specialty**

The purpose of Pathology is to diagnose diseases with respect to their classification, etiology, pathogenesis and their clinicopathological behavior, and the evaluation of diagnostic and prognostic methods as well as the effects of therapeutic interventions by morphological and functional examination of cells and tissue samples, from gross examination to the molecular lab, including conventional and advanced microscopy and supporting most recent techniques to demonstrate expression of genes and gene products. The pathologist offers advice and support to fellow clinicians for the benefit of individual patients, the improvement of the quality of diagnostic methods and a better clinicopathological understanding of disease, as well as support the implementation of personalized treatment in oncologic patients.

Finally, patient education and public health aspects of modern pathology and the importance of this specialty in patients’ treatment must also be considered.

Nowadays, it is clear how Pathology plays a fundamental role in modern healthcare systems, addressing the comprehensive diagnostic needs of all patients, coordinating and directing therapy choices. The PS must possess not only the essential scientific knowledge and

skills necessary to render a complete and correct diagnosis as well as give background for personalized medicine and the predictive markers for personalized treatment, but also the organizational insights and capabilities needed to work efficiently in the pathology laboratory/department, cytopathology office, the autopsy and forensic department, additionally joined with molecular biology facility and other modern technologies (eg. bioinformatics, biobanking).

Devising a Core and Training Curriculum is rather a difficult task in relation to the variable role and structure of Pathology across Europe, to the new technologies implemented and the more and more intense relationship with clinical, scientific and technical development.

In addition, as said, the status of Pathology varies between being a primary specialty and the several so-called “sub-specialties”, such as Cytopathology, Dermatopathology, Pediatric Pathology, Neuropathology, Forensic, Cardio pathology, Nephro pathology, Paleopathology, etc., which are not recognized “per se”, but are “integral parts” of Pathology which, for the safety and care of patients, necessitate special additional training program. This emphasizes the need for common standards for ETRs definition, ensuring high quality care for patients whilst promoting free movement of physicians and the development of the specialty, as well as Pathology Specialists dignity, central position in therapy choice, and last, but not least pertinent economic reward.

**THE PATHOLOGY SECTION OF THE UEMS-REPRESENTATION**

The UEMS Section is composed of two delegates from each of the 31 UEMS member countries (the 27 EU-countries plus, Iceland, Norway, Switzerland, and United Kingdom) and a representative from the European Junior Doctors (EJD), from the European Federation of Cytology Societies (EFCS) and the European Society of Pathology (ESP).

The delegates are appointed by each National Medical Associations.

Ukraine, Armenia, Serbia, Israel, Georgia, Iraq, Lebanon, Morocco, and Tunisia are observer countries.

**Vision**

To serve patients throughout Europe by developing, supporting, and encouraging doctors of

the highest quality in the specialty of Pathology.

**Purpose**

To achieve the delivery of high-quality patient care in means of pathological diagnoses, by promoting and harmonizing high standards for medical practice, postgraduate education, and thus professional excellence in being Pathology Specialist.

**Key Objectives**

To define, secure and assess the standards of training in Pathology in the EU including the awarding of Fellowship diplomas and accreditation of training centers, with the CESMA accreditation.

To evaluate the quality of Pathology Continuing Medical Education CME/CPD in Europe in conjunction with EACCME.

To promote exchange of trainee pathologists across Europe

To collect and analyze workforce demographics in Pathology.

To administer an annual European Specialty examination Pathology in accordance with UEMS and CESMA requirements.

**THE FELLOWSHIP OF THE EUROPEAN SECTION AND BOARD OF PATHOLOGY (FESB)**

To improve the quality of Pathology training, the European Section and Board of Pathology (ESBP) accredits specialists in Pathology.

Applications for the award of the Fellowship of the ESPB can be made through the Website.

Eligible Pathologists are those who:

• have received a national accreditation/diploma as a certified specialist in Pathology within a UEMS Country or associated country or (in the future) get diploma from ESBP,

• are actively working as a Pathologist specialist minimum 5 years,

• have published a minimum of two original papers/year in peer-reviewed journals, as first or lead author or co-author.

Additionally, Pathologists who fulfill the following criteria are eligible to apply for the ESBP Fellowship:

• Pathologists who undertook their basic medical and specialty training outside Europe, achieved Specialist Certification inside Europe, who then left Europe to work in a non-European country (eligible provided support is received from European delegates on the ESBP);

• Pathologists who undertook their basic training in a UEMS member state or associate country, who have achieved specialist certification inside Europe, but who then left Europe to work in a non-EU country (eligible provided they get support from European delegates on the ESBP or from a delegate from the country where he/she was trained);

• Pathologists who undertook their basic training outside Europe, obtained a specialist certificate outside Europe but currently work as a certified specialist in Europe, and are on the relevant country’s specialist register (eligible with national delegate’s support);

• Pathologists who are actively working in the specialty for a minimum of 5 years and have published a minimum of 2 papers in peer-reviewed journals.

Applications from candidates who fulfill these requirements are evaluated by members of the Training and Recognition Committee (TRC) and are awarded the Diploma of ESBP if their application is approved by the TRC and the European Section and Board of Pathologists after scoring a positive result of the board exam.

Once candidates have obtained the certificate of the ESBP, they can use the post nominal “Fellow of the European Section and Board of Pathologists (acronym: FESBPath)”.

The attainment of the FESBPath indicates that an individual doctor has achieved the ability to practice Pathology according to European standards, but it does not guarantee competence in local language, cultural, and legal matters. The award of the Fellowship of the ESBP does not assume that each fellow has achieved competence in all areas of Pathology,

including knowledge, skills, or procedural skills, but has achieved a critical mass of competence to practice as a Pathologist and can acquire further specialized competencies in selected areas (so called areas of special interest as mentioned above) if necessary.

The objectives of the Pathology UEMS Section include

● Supporting the delivery of the highest level of training for current and future medical PS providing the minimal requirements which will allow to achieve the aforementioned goals;

● Establishment and continuous improvement of Pan-European Assessment Process which will include a common Syllabus and Curriculum for Pathology Training, Exit Examination and Eligibility Criteria;

● Enabling and promoting the free movement of PS in EU and beyond;

● Representing the profession within EU member states and its associated countries, to EU authorities and any other authority dealing with questions directly or indirectly concerning Pathology;

● Support the continuous development of Pathology in EU countries;

● Promoting the professional interests of European Pathologistsincluding support for the development of the appropriate workforce and appropriate working environment.

**4. Procedure of ETR Revision**

This document derives from the previous Chapter 6 of the Training Charter and from the Pathology ETRs as approved in London by 2018 UEMS General Assembly. It aims to provide definitions of specialist competencies and procedures and document and assess them. For the sake of transparency and coherence, it has been renamed as “Training Requirements for the Specialty of Pathology (Pathology ETRs)”.

This document aims to provide the basic ETRs for the specialty of Pathology and has been updated by the UEMS Section and Board for Pathology in 2025, to reflect the most recent scientific medical and technical progresses and changes in the European Curriculum for Pathology. The structure of this document reflects the UEMS approach for 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 Pathology Specialist (PS) training.

The European Core Curriculum in Pathology document represents the detailed description of the competence and skills of the PS and has been jointly endorsed by the UEMS Section of Pathology and the UEMS General Assembly and discussed with the European Society for Pathology (ESP) the Education ESP Committee. The curriculum will be further approved by the National Medical Associations of each Country Members represented in the UEMS.

The UEMS Section and Board recognizes the need for a unifying document for Pathology based on minimum training requirements and recognition of professional competences and qualifications. These ETRs therefore state the agreed minimum standards to all EU countries for training requirements. National authorities may choose to supplement the recommendations in the ETR with either additional competences or with explicit standards and assessment tools relevant to that country in agreement with National rules and legal regulations, but in respect to cover the minimum ETR standards.

There are structures within the UEMS for accreditation and quality assurance of aspects of specialist training, and the Pathology Section recommends that individual countries undertake such accreditation as appropriate and to complement their national authority rules (CESMA).

**II. TRAINING REQUIREMENTS FOR TRAINEES**

**1. Trainee in Pathology**

A medical trainee is a doctor who has completed his/her undergraduate medical education

and professional training as a physician and is in an accredited training program to

become a recognized medical specialist. The trainee is described differently as an intern, resident, trainee, fellow or registrar in different countries.

**2. Content of the training and learning outcomes**

Learning Outcomes represent the skills that learners can expect to demonstrate after completing the training period. They are defined in terms of competence (measured or observed as knowledge, skills, and professional behavior).

**a. Competencies requires of the trainee**

A Pathologist is a physician who has acquired sufficient knowledge, competence, and skills to make pathologic diagnoses after a defined period of training based on a specific syllabus.

The curriculum comprehensively described below encompasses “theoretical knowledge”

and “practical skills” which are mandatory to be trained as a Pathologist, as well as Entrustable Professional Activities

The curriculum also mandates that the trainee has acquired sufficient knowledge and attitudes in relation to communication, interpersonal skills, ethics, professionalism, patient safety and quality assurance.

**CanMED Framework**

**COMPETENCIES AND TRAINING RELATED TO COMMON PRESENTATIONS (CanMEDS)**

The CanMEDS Roles provide a framework whereby competence in healthcare can be evaluated in all medical specialties, with emphasis on seven roles which involve all interactions between patient and doctor and doctor and his social and professional context. Th Trainee in Pathology should know and became a **Medical Expert (able to** apply clinical skills and knowledge to the various problems of the pathology practice; to collaborate with patients and families for precise diagnosis and pertinent therapy; to contribute to the overall health care quality and patient safety), **Communicator (**Able to build empathic interactions with patients; to understand the patient’s perspectives, expectations, and socio-economic issues, to actively listening, interviewing and communicating in plain language and clearly documenting information with patients and others care takers); **Collaborator (**Able to share knowledge and responsibilities; to learning and work together in education, administration, and scholarship); **Leader** **(**Able to take responsibility for the evolution, and continuous improvement of the healthcare system; to expand beyond the merely clinical or technical role and take on administrative, teaching, and scholarly roles and responsibilities; exercise efficient use of resources; to contribute to improvements in personal practice, team, organization, and system); **Health Advocate (**Able to understand and address the determinants of health; to collaborate with communities and populations to influence change in the health care system and contribute to health promotion and disease prevention); **Scholar (**Able to pan for and engage in life-long learning and teaching; evaluate and apply evidence to day-to-day practice and contribute to research); **Professional (**Able to commit to patients, society, profession and maintain clinical competence adherent to ethical

standards; to demonstrate social accountability by responding to societal and professional needs; to participate in self-assessment, build self-awareness, and manage own well-being)

In other words, the Trainee should demonstrate attention and skills in

COLLABORATION with

● Other health care professions

● Patients and families

● Community care providers

● Other stakeholders

CONTINUOUS IMPROVEMENT of

● Personal and collective practice

● Patient outcomes and safety

● The health of communities and populations

● Cost effectiveness

● Quality of services and the overall quality of patient care

LEADER and CHANGE AGENT in HEALTH CARE SYSTEM

● respond to and advocate for the needs of the populations they serve

● expand beyond their clinical or technical role

● to take on administrative, teaching and scholarly roles and responsibilities

● Establishing pathology expertise

● Eliciting an appropriate history

● Performing appropriate pathology department procedures

● Making an initial diagnosis or differential diagnosis

● Arranging appropriate cost-effective and ethical investigations

● Reaching diagnostic conclusions

● Communicating clearly and empathetically

● Educating and providing educational resources for others

● Considering different management approaches taking into account benefits, risks, and alternatives

● Obtaining help or second opinions from colleagues or other health professionals

● Quickly sourcing reference information with critical appraisal of veracity.

● Recommending additional procedures needed in pathology

● Personally, undertaking procedures

● Providing sensitive and empathetic emotional support

● Managing the consultation time and health care resources efficiently

● Respecting confidentiality of patient’s data

Throughout the duration of the training program, the trainee’s acquisition of the various consultation related competencies needs to be supported, and when successfully acquired, documented.

**System Interaction, Management and Organizational Competencies**

The doctor-doctor or doctor-patient interaction occurs within a professional and organizational system and a doctor must be competent in his or her relationship with these systems. Thus, an array of competencies, which are not directly related to the individual doctor-patient relationship and consultation must be shown. These include:

● Personal management, especially time management

● Team working, including appropriate leadership, with the patient care clinical team, the multidisciplinary team, the departmental and institution-wide management, and clinical teams

● Hospital Clinic Management including resource allocation and service development

● Ethical behavior

● Awareness and understanding of legal frameworks and obligations

● Awareness and understanding of commercial pressures and bias which may impact on clinical care

● Teaching of colleagues and students

● Audit

● Research

● Public Health implications of clinical care.

**i. Theoretical knowledge**

**During the training Trainee should master the following items**

• normal gross and microscopic anatomy, physiology, and biochemistry principles of cell biology, immunology, genetics, and pathogenic mechanisms, and the changes that occur in disease states

• how a light microscope works including polarization and dark field microscopy

• the principles of embryologic development and common variations from normal

• clinical and biomedical sciences to manage the breadth of patient presentations in Anatomical Pathology

• turnaround time and its importance for various tests, including genetic tests

• the principles of tissue fixation, decalcification, processing and the potential impact of improper handling of fresh tissues

• routine histochemical staining and principles for immunohistochemistry and special histochemical stains

• appropriate sample requirements and handling

• most appropriate method of intraoperative assessment (gross examination only vs frozen sections vs cytologic examination)

• indications, contraindications and limitations of frozen sections

• the principles of and indications for ancillary diagnostic techniques in histo- and cytopathology

•general concepts related to the human genome, human genes, and inheritance of DNA

• essential elements of adequate analytical validation for genetics-based tests

• the natural history of cancers, including risk factors, incidence, prevalence, genetic predisposition, growth and dissemination patterns, and prognostic variables

• the correlation of biochemical, microbiological, and radiological studies with pathology findings

• the principles of digital photography

• the principles of autopsy, both hospital and medico-legal, including the characteristics of autopsies requiring referral to pathologists with forensic expertise

• quality assurance pertinent to surgical, cytology and autopsy pathology

• gross and microscopic appearances of tissues in disease states

• cytological appearance of cells in disease states

**ii. Practical and clinical skills**

Key skills to possess in the specialty of pathology after training include

● Establishing pathology report

● Eliciting an appropriate history using different information sources

● Following appropriate pathology procedures

● Formulation of diagnosis including differential diagnosis

● Formulation of clear and brief diagnostic conclusions

● Pertinent source of reference information

**Iii. non-technical skills and professionalism**

The position of Pathology and pathologist in the healthcare system and society demand great communication skills in order to convey the plethora of benefits arising from their activity. The non-technical skills and professionalism elements include:

• Communication with fellow pathologists (trainees) and senior colleagues

• Communication with laboratory and administration staff

• Communication with molecular biologists and other scientists involved in health care

• Communication with patient/patient family

• Communication with grieving family

• Communication with other diagnostic professionals (radiology, microbiology, biochemistry/hematology lab….)

• Communication with decision makers in hospital/academy

• Communication with the public

• Communication with clinicians sending material

• Communication with clinicians expecting results/diagnosis (patient care clinical team, the multidisciplinary team, the departmental and institution-wide management, and clinical teams)

• Communicate briefly and clearly

**i. Theoretical knowledge**

contents of training and competencies require the knowledge of

• normal gross and microscopic anatomy, physiology, and biochemistry principles of cell biology, immunology, genetics, and pathogenic mechanisms, and the changes that occur in disease states

• how a light microscope works including polarization and dark field microscopy

• the principles of embryologic development and common variations from normal

• clinical and biomedical sciences to manage the breadth of patient presentations in Anatomical Pathology

• turnaround time and its importance for various tests, including genetic tests

• the principles of tissue fixation, decalcification, processing and the potential impact of improper handling of fresh tissues

• routine histochemical staining and principles for immunohistochemistry and special histochemical stains

• appropriate sample requirements and handling

• most appropriate method of intraoperative assessment (gross examination only vs frozen sections vs cytologic examination)

• indications, contraindications and limitations of frozen sections

• the principles of and indications for ancillary diagnostic techniques in histo- and cytopathology

•general concepts related to the human genome, human genes, and inheritance of DNA

• essential elements of adequate analytical validation for genetics-based tests

• the natural history of cancers, including risk factors, incidence, prevalence, genetic predisposition, growth and dissemination patterns, and prognostic variables

• the correlation of biochemical, microbiological, and radiological studies with pathology findings

• the principles of digital photography

• the principles of autopsy, both hospital and medico-legal, including the characteristics of autopsies requiring referral to pathologists with forensic expertise

• quality assurance pertinent to surgical, cytology and autopsy pathology

• gross and microscopic appearances of tissues in disease states

• cytological appearance of cells in disease states

General knowledge of developing new tools (e.g. computer-assisted diagnosis)

Basic knowledge and skills in Digital Pathology

Basic knowledge and skills in pathology related informatics

Basic understanding of electron microscopy assessment

**BASIC COMPETENCIES IN SYSTEMATIC PATHOLOGY**

After completing the module, the Trainee is expected to demonstrate knowledge of:

**General Pathology**

1. Physical basis of the operation of optical and electron microscopy

2. Basics of histological preparations

3. Theoretical basis of immunohistochemical methods

4. Biochemical basis of molecular diagnostic methods

5. Immunohistochemistry, electron microscopy and molecular methods

6. Elements of bioinformatics and computer assisted diagnosis

7. Pathogenesis, histological diagnosis and hemodynamic disorders

8. Morphological diagnosis of the causes of circulatory failure and shock

9. Pathogenesis and basics of morphologic patterns of inflammation

10. Mycobacterial Infection

11. General pathology of autoimmune diseases

12. Morphological diagnosis and differentiation of connective tissue diseases

13. Epidemiology of cancer

14. Molecular basis of carcinogenesis and progression of cancer

15. Basics of histogenetic classification of cancer

16. Prognostic and predictive factors of tumors with emphasis on diagnosis

17. Pathologic elements of bioterrorism

**Skin**

18. Non-malignant skin diseases, premalignant and malignant skin tumors

19. Inflammatory skin diseases, bullous diseases, genodermatosis

20. Premalignant lesions and skin epithelial tumors

21. non-epithelial skin tumors

22. Nevi and malignant melanoma

**Head & Neck**

23. Inflammatory diseases and non-neoplastic diseases of oral cavity

24. Precursors and invasive cancer of the oral cavity

25. Neoplasms of the oral cavity

26. Inflammatory lesions of nose and paranasal sinuses

27. Cancer of the pharynx, nose, paranasal cavities and tonsils, including cytopathology

28. non-neoplastic lesions of tonsils

29. Classification, diagnosis and differential diagnosis of dental cysts

30. Dental neoplasia

31. Other diseases of jaw, including intra-bone lesions

**Upper and Lower Airways**

32. Inflammatory lesions of larynx and trachea

33. Most common neoplasms of head and neck

34. Neoplasms of larynx and trachea, diagnosis and prognostic factors

35. Classification and differential diagnosis of pneumonia

36. Diagnosis of interstitial lung diseases

37. Other non-neoplastic lung diseases

38. Lung cancer: epidemiology, pathogenesis, classification, prognostic factors

39. Biopsy and cytological material from bronchoscopy and transthoracic biopsy

40. Differentiation between primary tumors of the lung and metastases

41. Another primary lung tumors

42. Inflammatory and non-neoplastic diseases of the pleura

43. Mesothelioma

44. Metastatic tumors of the pleura, effusions and differential diagnosis

45. Thymoma: classification and diagnosis

46. Primary and secondary neoplasms of the mediastinum

47. Other thymic lesions

**Endocrine**

48. Endemic goiter, thyroiditis and cytology

49. Thyroid tumors, including evaluation of cytological material

50. Parathyroid diseases: hypertrophy, adenomas, cancer

51. Adrenal adenoma and cortical carcinoma

52. Neuroblastoma: epidemiology, diagnosis, prognostic factors

53. Pheochromocytoma

54. Pituitary adenomas and carcinomas

55. Main diseases of other endocrine glands

**Digestive Tract**

56. Congenital gastrointestinal disorders

57. Gastrointestinal diseases, with endoscopic material

58. Esophagitis

59. Reflux disease of the esophagus and its consequences

60. Esophageal cancer

61. Gastritis

62. Precancerous lesions of the stomach

63. Gastric cancer: pathogenesis, epidemiology, classification, diagnosis

64. Appendicitis

65. Non-neoplastic diseases of the duodenum and small intestine

66. Malabsorption syndromes

67. IBD: ulcerative colitis, Crohn, ischemic colitis

68. Gastrointestinal polyps

69. Duodenal epithelial tumors

70. Colo-Rectal Carcinoma: pathogenesis, epidemiology, classification

71. Other colorectal neoplasms

72. Marginal zone lymphoma – malt and other gastrointestinal lymphomas

73. Gastrointestinal stromal tumors (GIST) and other mesenchymal tumors

74. Salivary glands inflammatory diseases

75. Salivary glands neoplasms

76. Acute and chronic hepatitis with focus on core needle biopsy

77. Cirrhosis with focus on core needle biopsy

78. Primary and secondary liver malignancies, and cytopathology

79. Other liver diseases

80. Cholelithiasis, cholecystitis, malignant gallbladder tumors

81. Acute and chronic pancreatitis

82. Pancreatic cancer with focus on cytopathology

83. Other pancreatic neoplasms

84. Other exocrine part of pancreas diseases

85. Endocrine part of pancreas diseases with particular focus on neoplasms

86. Peritonitis - etiology, differential diagnosis and diagnosis

87. Cytological assessment of peritoneal effusion

**Kidney, urinary and male genital system**

88. Congenital anomalies of kidneys and genetic kidneys diseases

89. Glomerulopathies: pathogenesis and core needle biopsy

90. Tubulointerstitial kidney diseases

91. Vascular kidney diseases

92. Other kidney diseases associated with systemic conditions

93. Pediatric kidney neoplasms

94. Kidney neoplasms of adults: differential diagnosis and prognostic factors

95. Other kidney diseases

96. Congenital defects of urinary tract and male genital organs

97. Inflammation of bladder

98. Neoplasms of urinary tract – classification, differentiation, urine cytology

99. Other neoplasms of urinary tract

100. Nodular hyperplasia, inflammations of prostate gland

101. Epidemiology, diagnostics, core biopsy, cytology, prostatic carcinoma

102. Differential diagnosis of other neoplasia of prostate gland

103. Inflammations of testis and epididymis

104. Testicular neoplasia

105. Tumors of male genital organs

**Female genital tract**

106. Diagnosis of congenital defects of female genital organs

107. Neoplastic and non-neoplastic diseases of vulva and vagina

108. Endometriosis

109. Non-neoplastic and benign lesions of cervix

110. Cytological diagnosis of cervical lesions

111. Intraepithelial and premalignant lesions of cervix

112. Squamous cell carcinoma of cervix

113. Adenocarcinoma and other rare malignant tumors of cervix

114. Changes of endometrium in menstrual cycle and cycle disorder

115. Endometrial carcinoma - diagnosis, differentiation, prognosis

116. Smooth muscle and other mesenchymal tumors - differential diagnosis

117. Fallopian tube pathology

118. Ovary - non-neoplastic lesions

119. Ovary - epithelial, germ cell, sex cord stromal tumors and rare neoplasia

120. Pregnancy and Placenta related lesions: histological diagnosis of ectopic pregnancy and secondary lesions, infections and miscarriage factors, fetal death, gestational trophoblastic disease and neoplasia

**Breast**

121. Inflammatory regressive changes and sclerosing or proliferative lesions (including atypical and non-atypical intraepithelial proliferations and adenosis). Differential diagnosis with precancerous changes and carcinoma

122. Breast carcinoma: epidemiology, prognostic factors, fine needle aspiration biopsy material, core biopsies, intraoperative and surgical specimen

123. Other neoplastic (fibroepithelial, mesenchymal, hematolymphoid tumors) and non-neoplastic lesions

**Lymph nodes and hematopathology**

124. Lymph-adenitis

125. Hodgkin lymphoma differential diagnosis, classification, prognostic factors

126. non-Hodgkin lymphomas, genetics, diagnosis, and differential diagnosis

127. Leukemias differential diagnosis, classification

128. Multiple myeloma and MGUS

129. Myeloproliferative neoplasms

130. Myelodysplastic syndromes

131. Reactive/secondary syndromes

132. Anemias, bleeding disorders

**Bone & Soft Tissues (SY)**

133. Morphological differential diagnosis of the main bone diseases

134. Inflammations and degenerative joint disease - differential diagnosis

135. Inflammations and regressive bone changes

136. Bone and joint tumors diagnosis with radiological and clinical correlation. Biopsy specimen, intraoperative and surgical specimen diagnosis

137. Epidemiology, classification and morphological differential diagnosis of ST tumors including immunohistochemistry, electron microscopy and molecular

138. non-neoplastic ST diseases

**Cardiovascular System**

139. Atherosclerosis and coronary heart disease and consequences

140. Morphological diagnosis of the consequences of hypertension

141. Systemic vasculitis and immunopathology of systemic vascular diseases

142. Congenital and acquired defects of the heart and vessels

143. Endomyocardial biopsy in the context of the diagnosis of myocarditis

144. Other inflammatory process of the cardiovascular system

145. Primary and secondary cardiomyopathies

146. Other cardiovascular system diseases

**Nervous System**

147. Vascular changes of the central nervous system

148. Degenerative diseases of the central nervous system

149. Histopathological diagnosis of intracranial tumors

150. Muscle diseases

151. Inflammatory and non-neoplastic diseases of the eyeball

152. Malignant melanoma, retinoblastoma and other ocular tumors

153. The role of morphological diagnosis in diseases of the auditory organ

**MOLECULAR PATHOLOGY**

**Competencies for Pathology Residents: Molecular Pathology**

This comprehensive log outlines the essential topics, knowledge areas, and skills that pathology residents must acquire in molecular pathology. The content is categorized into thematic sections to ensure systematic learning and assessment.

**Molecular Biology Principles**

1. **Molecular Structure of DNA**: Understanding DNA structure, transcription, and protein translation.
2. **Carcinogenesis**: Mechanisms of DNA damage, repair, and cancer initiation.
3. **Tumor Development**: Key cellular and molecular processes in oncogenesis.
4. **Regulation of Cell Proliferation and Death**: Role of critical proteins and pathways.
5. **Invasion and Metastasis**: Molecular mechanisms driving cancer spread.
6. **Oncogenes and Tumor Suppressor Genes**: Their role in tumorigenesis.
7. **Cell Cycle and Cancer**: Dysregulation and its implications.
8. **Genetic Alterations**: Polymorphisms, mutations, and copy number variations.
9. **Tumor Heterogeneity**: Inter- and intra-tumor variability.
10. **Genetic Diseases and Cancer**: Genetic predispositions and syndromes.
11. **Gene Transcription**: Regulation and expression.
12. **Messenger RNA**: Structure, maturation, and degradation.
13. **Non-Coding RNAs**: Classification, expression, and functional roles.
14. **Protein Metabolism**: Structure and metabolic processes.
15. **Protein Modifications**: Post-translational changes like phosphorylation and glycosylation.
16. **mRNA Translation**: Mechanisms and regulation.
17. **Signal Transduction**: Key pathways in cellular communication.

**Pre-analytical and Analytical Methodology**

1. **Pre-analytics**: Handling of DNA, RNA, and proteins.
2. **Morphological Control**: Ensuring accuracy in molecular analysis.
3. **Proteomic Approaches**: Applications in cancer research.
4. **Immunohistochemistry (IHC)**: Conventional and multiplexed methods.
5. **DNA/RNA Extraction**: Techniques and quality assessment.
6. **Molecular Biology Techniques**: Electrophoresis, PCR, and gel analysis.
7. **Cytogenetics**: Basics of karyotyping and molecular analysis.
8. **In situ Analysis**: DNA, RNA, and epigenetic modifications.
9. **Mutation and CNV Analysis**: Techniques and interpretations.
10. **Epigenetics**: Analysis and implications.
11. **Genomic and Proteomic Approaches**: Large-scale methods in cancer research.
12. **Array Technologies**: Expression and genotype arrays.
13. **Genomic Approaches**: Advantages and limitations.

**Infectious Diseases**

1. **Specimen Handling**: Techniques for diagnostic accuracy.
2. **Molecular Diagnostics**: PCR, hybridization, and NGS methods.
3. **Ancillary Methods**: Culture, serology, and IHC.
4. **Lab Challenges**: Contamination, assay validation, and safety.
5. **Test Interpretation**: Sensitivity, specificity, and false results.
6. **Targeted Diagnostics**: Mycobacteria, Herpesviridae, HPV, etc.
7. **Broad-Spectrum Diagnostics**: Panbacterial, panfungal, and metagenomic.
8. **Emerging Pathogens**: SARS-CoV-2 and other new infectious agents.

**Molecular Pathology in Oncology**

1. **Isto-molecular Classification**: Lung, brain, ovarian, breast, and other cancers.
2. **Predictive and Prognostic Biomarkers**: Applications in various cancers.
3. **Hereditary Cancer Testing**: MMR deficiency, MSI, BRCA mutations.
4. **Epigenetics**: Methylation and other biomarkers.
5. **Sarcomas**: Translocation and amplification analysis.
6. **Endocrine Tumors**: Hereditary and isto-molecular classifications.
7. **Melanomas**: Molecular insights and classification.
8. **Lymphomas**: Cytogenetics and clonality analysis.
9. **Urological Tumors**: Molecular profiling.
10. **Liquid Biopsy**: Techniques and clinical applications.

**SPECIFIC TOPICS IN PATHOLOGY**

**Immunopathology**

1. **Innate and Adaptive Immunity**: Defense mechanisms.
2. **Anti-Tumor Immunity**: The immune response to cancer.
3. **Immunotherapy**: Biological principles and neoadjuvant therapy evaluation.
4. **Immune Response Analysis**: Techniques for studying therapy outcomes.

**Digital Pathology and Computational Pathology**

1. **Introduction to Digital Pathology**: Fundamentals and workflows.
2. **Digital Image Analysis**: Techniques and experiments.
3. **AI in Pathology**: Applications and ethical considerations.

**Quality Control and Accreditation**

1. **Standardization Guidelines**: ISO/CEN frameworks.
2. **IVDR and GDPR**: Regulatory requirements.
3. **EQA Programs**: Role in maintaining diagnostic accuracy.
4. **Pre-analytical Variables**: Impact on biopathology research.
5. **Ethical and Legislative Framework**: Guidelines for research and clinical practice.

**Ethics in Molecular Pathology**

1. **Patient Consent**: Informed consent, with special respect for molecular testing.
2. **Data Confidentiality**: Adhering to GDPR and local regulations.
3. **Equity in Testing**: Addressing disparities in access to diagnostics.
4. **Ethical Reporting**: Transparent communication of test results.

**Management in Pathology**

1. **Lab Organization**: Workflow optimization for diagnostics purposes.
2. **Resource Allocation**: Budgeting and procurement for specialized equipment.
3. **Team Management**: Interdisciplinary collaboration in pathology lab.
4. **Continuous Education**: Keeping the team updated on advances in pathology techniques.
5. **Strategic Planning**: Incorporating emerging technologies into diagnostic pipelines.

**ii. Practical and clinical skills**

All interactions between a patient and a doctor, e.g. in pathology with case solving, may be viewed as a consultation and there are several fundamental consultation-related competencies, which must be acquired. As a rule, pathologists have significantly less direct contact to patients, but this consultation activity severely relies upon all the information provided by clinical colleagues; special competencies fostering the ability to obtain pertinent patient data in indirect ways also must be acquired.

#### 

#### The pathologist as a medical expert

##### General skills as medical expert include:

● Establishing pathology report

● Eliciting an appropriate history using different information sources

● Following appropriate pathology procedures

● Formulation of diagnosis including differential diagnosis

● Formulation of clear and brief diagnostic conclusions

● Pertinent source of reference information

**Specialized skills as a medical expert**

- following the appropriate procedure according to protocols (manual) and documentation of the procedures

- interpretation of the macroscopic and microscopic features   
- appropriate reducing of the gross material for histopathological examination,   
- interpretation of autopsy cases material  
- The interpretation of microscopically visible changes in materials from sections, frozen section, thick/fine needle biopsies, postoperative materials,   
- The performance and evaluation of cytological samples (swabs, body cavity fluids, fine needle aspirates, copy preparations),   
- understanding of limits and interpretation of special techniques as Isto-immuno-chemistry, electron microscopy, molecular biology (understanding of different techniques, as PCR, RT-PCR, NGS, etc.) used in the pathology

- interpretation of test results of special techniques along with morphologic diagnosis

**Medicolegal skills as medical expert**

● understand the legislation regarding patient confidentiality and data protection (Autonomy, informed consent & competence)

● respect the rights of competent patients to be fully informed about the aspects of their care (including diagnostic procedures and extent of tests done in pathology), to be fully involved in decisions about their care, and to refuse clinical procedures or treatment

Trainees should be aware of the relevant legislation in the country of practice regarding the preservation of forensic evidence. They should be able to document and appropriately handle evidence suggesting abuse, neglect or crime. For this reason, it is necessary to take part in interdisciplinary meetings for further discussion of these findings.

Skills in quality control and assurance as medical expert.

The trainee should also be aware of mistakes in daily practice and be prepared for a reliable culture in which all errors are openly identified, investigated, and disclosed. In the occasional presence of significant medical complications resulting from mistakes or errors, the trainees are ethically required to inform the Colleagues and disclose to patients all necessary information. Errors do not necessarily imply negligence or misbehavior, but failure to disclose them may be unethical and full of consequences.

● Quality Control in Pathology and Cytopathology practice

● Audit

**Completing the training, the Trainee should be able to “carry out”, appropriately order and interpret:**

• Sample reduction

• Gross and microscopic routine diagnosis

• Frozen Sections assessment

• Molecular analysis and reports

• Cytology smears assessment

• Fine-needle aspiration biopsy

• Clinical/Medical Legal autopsies

• Histochemical staining

• Immunohistochemical reactions

For each procedure, the Trainee should be able to list and understand

• Indications

• Contraindications

• The pre-analytical requirements and how to manage them

• Post-procedure and Storage and Archive requirements and management

• Be able to systematically and efficiently carry out the procedure, when required

**For each diagnostic test, the Trainee should know:**

• The best fixation procedures

• The sensitivity and specificity of the devised test

• The potential of lookalikes and differential diagnoses

• The systematic interpretation of results

• Safety requirements

### Non-technical skills and professionalism

#### Skills as Communicator

The position of Pathology and pathologist in the healthcare system and society demand great communication skills in order to convey the plethora of benefits arising from their activity.

• Communication with fellow pathologists (trainees) and senior colleagues

• Communication with laboratory and administration staff

• Communication with molecular biologists and other scientists involved in health care

• Communication with patient/patient family

• Communication with grieving family

• Communication with other diagnostic professionals (radiology, microbiology, biochemistry/hematology lab….)

• Communication with decision makers in hospital/academy

• Communication with the public

• Communication with clinicians sending material

• Communication with clinicians expecting results/diagnosis (patient care clinical team, the multidisciplinary team, the departmental and institution-wide management, and clinical teams)

• Communicate briefly and clearly

• When reporting the pathologist should communicate briefly and clearly based on the results of the investigation, including diagnosis, differential diagnosis or molecular results. The report should, if necessary, suggest further procedures (e.g. re-excision; eligibility for specific therapy). Additional procedures needed to establish a pathology report should be recommended.

Pathologists need to be able to communicate clearly and confidently with patients and their relatives, care-givers, advocates, and other professionals and involve the patient in decision-making, be it simple or complex.

b. **Level of Competence**

The core curriculum described above defines the required knowledge and skills that a pathologist should have acquired upon completion of his/her training period.

In addition to knowledge and practical skills to make pathologic diagnoses and understand how to prevent diseases, it is recommended that the curriculum provides the candidate with basic knowledge of scientific methodology, organizational skills, medico-legal and ethical issues, including health economics, leadership, and teaching skills.

To achieve these goals, the trainee should be exposed to a sufficient number and variety of cases and procedures throughout the entire training period.

In summary, the trainee will:

1. observe, describe and report;

2. perform, manage and demonstrate under direct supervision

3. perform, manage and demonstrate under distant supervision

4. perform, manage and demonstrate independently

**c.** Competences after fulfilling residency program

Education is a dynamic process, and the curriculum will be updated according to major advances in Pathology and specific National requirements.

To be appointed as a specialist/consultant an individual should show a level of competence

sufficient to allow independent practice in pathology.

By the end of the training program the trainee will be expected to select appropriately,

interpret correctly and where appropriate, perform competently, the required procedures

and investigations required for pathologic diagnosis. For the assurance of adequate experience, a minimum number of procedures should be undertaken by trainees under different levels of supervision.

For practical procedures each trainee should have a training logbook.

The recommended ESBP logbooks will be delivered and published.

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 searching relevant literature.

**Interaction and Consultation-related Competencies**

All interactions between a patient and a doctor, eg. in pathology with case solving, may be viewed as a consultation and there are several fundamental consultation-related competencies, which must be acquired by the clinician. As a rule, pathologists have significantly less direct contact to patients, but this consultation activity severely relies upon all the information provided by clinical colleagues; special competencies fostering the ability to obtain pertinent patient data in indirect ways also must be acquired. After completion of the treating the pathologist should be able to:

● Establishing rapport

● Eliciting an appropriate history using different information sources

● Guiding clinical colleagues in taking a focused history

● Performing appropriate pathology department procedures

● Making an initial diagnosis or differential diagnosis

● Arranging appropriate cost-effective and ethical investigations

● Reaching diagnostic conclusions.

Pathologists taking part in multidisciplinary team tumor meetings (MDTs) (or Tumor Board) and integrating data of other disciplines would be able to implement appropriate information into the final Pathology report which should in special cases also integrate molecular data into the final Pathology report. The pathologist should learn how to:

• Communicate briefly and clearly

• Educate and provide educational resources for others

• Consider different management approaches, taking into account benefits, risks, and alternatives

• Obtain help or second opinions from colleagues or other health professionals

• Quickly source reference information with critical appraisal of veracity

• Recommend additional procedures needed in pathology

Based on the results of the pathology investigation, including diagnosis, differential diagnosis or molecular results, the report should suggest further procedures for the patient (e.g., re-excision; eligibility for specific therapy)

• Undertake the procedure in person

• Providing sensitive and empathetic emotional support

• Managing the consultation time and health care resources efficiently

• Respecting confidentiality of patient’s data

Throughout the duration of the training program, the trainee’s acquisition of the various consultation related competencies needs to be supported, and when successfully acquired, documented.

**Procedures and diagnostic tests**

This section lists the procedures that a Trainee should be able to “carry out”, appropriately order and interpret, it is related to the following steps of competence during training, the trainee has knowledge of the procedure and had observed them, then performs, manages and demonstrates under direct supervision, than under distant supervision and finally at the end of the trainee performs, manages and demonstrates independently. This is according all of the following:

● Sample reduction

● Gross and microscopic routine diagnosis

● Frozen Sections assessment

● Histochemical staining

● Immunohistochemical reactions

● Molecular analysis and reports

● Cytology smears assessment

● Fine-needle aspiration biopsy

● Clinical/Medical Legal autopsies

● Basic knowledge and skills in Digital Pathology

● Basic knowledge and skills in pathology related informatics

● Basic understanding of electron microscopy assessment

**For each procedure, the Trainee should know**

● Indications

● Contraindications

● The pre-analytical requirements and how to manage them

● Post-procedure and Storage and Archive requirements and management

● Be able to systematically and efficiently carry out the procedure, when required

**For each diagnostic test, the Trainee should know:**

● The best fixation procedures

● The sensitivity and specificity of the devised test

● The potential of lookalikes and differential diagnoses

● The systematically interpretation of results

● Safety requirements.

**3. Organization of training**

**a. Schedule of training**

The minimum duration of the training program should be of four- or five-years duration, in single specialty training, to comply with EU regulations (Directive 2005/36/EEC). We acknowledge that EU countries have different training programs.

The Trainee should take courses/workshops on the following topics, preferably external to the PS training site, for minimum of 2 weeks per year of training:

1. Obligatory introductory course: Introduction to pathology, ethics and law in pathology, bio-banking and pathology department management

2. Course/workshop: basics of oncological histopathology

3. Course/workshop: basics of clinical cytology

4. Course/workshop: gynecology cytology

5. Course/workshop: hematopathology

6. Course/workshop: neuropathology

7. Course/workshop: advances oncological histopathology

8. Course/workshop: advances in clinical cytology

9. Course/workshop: selected elements of pediatric pathology

10. Course/workshop: grossing, standardized protocols for pathology reports, autopsy performing and autopsy protocols

11. Course/workshop: histopathology of bone and soft tissue lesions

12. Course/workshop: lung pathology

13. Course/workshop: breast and female genital tract pathology

14. Course/workshop: kidney and male genital tract pathology

15. Course/workshop: digestive and hepatic pathology

16. Course/workshop: dermatopathology

17. Course/workshop: head and neck pathology

18. Course/workshop: ancillary techniques (HC, IHC, molecular biology).

Trainees are encouraged to take complementary learning courses:

1. Flow cytometry: basic use and indications

2. Bioinformatics

3. Radiology/pathology correlation

4. Specific pathology of rare disease

5. Pathology of glomerulonephritis

6. Pathology of interstitial lung disease

7. Pathology of transplantations

8. Pathology of inflammatory skin diseases

9. Pathology of neurodegenerative disease

10. Pathology of lympho-hemopoietic system disease

Internships:

1. Basic internship in the field of pathology (192 weeks)

2. An internship in the field of forensic medicine (10 days/80 hours)

3. Internship in oncological pathology (20 days/160 hours)

4. Cytopathology

**b. Curriculum and Organization of training**

**Objective**

The recommended training curriculum of the ESBP is constructed so that doctors who successfully complete the specialist training program will be enabled to practice autonomously as a Pathologist, without ongoing supervision, not discounting the use of appropriate peer consultation. The curriculum is designed to train across the entire discipline of Pathology, so although trainees may develop particular clinical interests, they will also have acquired core knowledge and skills.

**Sub-Specialist Modules and Advanced Modules**

As the specialty of Pathology has grown, some areas have become increasingly complex. The curriculum therefore contains modules of advanced training in sub-specialties (special fields of interest) Lympho-, Nephro-, Cardio-, Dermato-, Cyto-, Paleo-, Pediatric-, Neuro-pathology, Hematology, Hepatology and Oncology. These modules are not obligatory, but trainees may wish to undertake one of these modules (basic knowledge and understanding of aforementioned fields is covered by Board Exam).

**Behavior and Professionalism**

Appropriate behavior and clinical actions by doctors are guided by ancient and longstanding norms and ethical codes. Patients and relatives place their trust in doctors at moments when they are most vulnerable. Doctors must display a professionalism, which maintains and nurtures this trust. As trainee doctors achieve increasing autonomy in pathology, it is important that they also display increasing professionalism and an increasing spectrum of generic behaviors.

Pathologists caring for their patients need to demonstrate the highest levels of compassion and honesty and show respect for others and not be discriminating or judgmental. This

includes respect to gender equity and equality regardless of sex, ethnicity, region of origin, or religion. Pathologists need to be able to communicate clearly and confidently with

patients and their relatives, care givers, advocates, and other professionals and involve the patient in decision-making, be it simple or complex. In order that no untoward harm should occur, should be involved in quality improvement. They should have a scholarly disposition

and maintain knowledge and skills through continuing education. They will also need

to display leadership, administrative, personnel management and team management skills.

There is an increasing need for consideration of environmental issues including waste arising

from medical procedures and energy use.

**Professionalism during training**

During their training program, trainees will always need to display appropriate behavior and professionalism. The precise quantification of these generic behaviors is not easy as they are implicit in all actions involved in patient care, as well as actions not involving patient care.

Feedback from patients, as well as members of the multidisciplinary team provides useful information. Lapses in appropriate behavior or professionalism by a trainee which are reported to or come to the attention of the Supervisor need to be evaluated and discussed with the trainee and escalated to appropriate authorities as necessary.

We recommend that the last year in Pathology or one further year may be used for related scientific work or practice or optional specialized training in a so-called field of special interest.

We recommend that the last year in Pathology year may be used for so-called fields of special interest. It is according to local regulations, that during pathology training scientific work and practice could be performed. It could be fulfilled using an additional year of training.

For training in this additional year to be recognized, it must be approved in advance by the relevant Local and National Training organizations according to local legal regulations.

**Trainee Posts – Entry schedule**

National authorities of each country endorse the selection procedure for trainees. The number of positions offered should match the manpower needs in the specialty. To recruit the most suitable candidates for training in Pathology, the procedure of selection should be transparent, and the application must be open to all persons who have completed appropriate basic medical training.

**Clinical Responsibilities and Timetable**

Although training might be supervised, assessed, and documented by several different trainers in different centers, in cooperation with the local Training Program Director, the trainee must organize in advance overall supervision, assessment and documentation of their training by one nominated supervisor, usually the supervisor at the initial training center or alternatively a regional or national training supervisor. A supervising trainer who takes on this responsibility must ensure overall supervision and mentoring of the trainee during their training program by liaising with other training centers to ensure that the trainee undertakes the full curriculum.

**Pathology Department Training**

Adequate Pathology Experience is mandatory during the Training Period, where there should be appropriate exposure with an adequate number of cases in all aspects of the Specialty.

The trainee should have sufficient linguistic ability to communicate with colleagues (and in some circumstances with patients or their family members) and be able to study the international medical literature.

**Teaching Activities**

Case Conferences, Journal Clubs, In-service Meetings, Multi-Disciplinary Meetings (especially

with representatives from specialties’ such as surgery, radiology, oncology), Intradepartmental Meetings as well as Hospital Staff Rounds and Seminars should take place regularly. Trainees should attend and contribute to these educational activities.

In addition, trainees should be encouraged to attend and present at local, regional,

national, and international meetings.

**Appointment and Job Description**

Trainees should be employed in substantive, paid, higher postgraduate medical positions, entry to which is by a competitive process. Employing Authorities should provide a job-description for the post. Trainee posts should provide adequate and appropriate clinical responsibility for both inpatients and outpatients, but the hours of work should not be so great as to deny the trainee adequate time for personal study and attendance at formal educational activities.

At least half the trainee’s time should be devoted to pathology department work; the remainder might be divided between personal study, formal educational activities, teaching, audit, and research. The maximal legal working time in Europe is **37.5** hours a week.

**Study Leave**

During their training program, trainees should be facilitated to take and obtain study leave to attend conferences and other educational activities outside their training unit.

**c. Assessment and evaluation**

• **Documentation of Training and formative and summative assessments**

Trainees must document their training on an ongoing basis throughout their training period by means of a logbook (see above). This logbook, which may be published nationally or by the local training center, should log information regarding experience, competencies, and non-experiential education (e.g., formal teaching sessions, educational courses attended etc.). Trainees should be encouraged to constructively reflect on training experiences. Opportunities for feedback should be provided throughout the duration of their training.

Experience to be logged includes the volume and nature of pathologic and other procedures, communication and ethical matters, teaching sessions personally delivered, research, audit, and administration.

**Number of procedures**

Overall, the recommended **MINIMAL NUMBER** of diagnosed cases is

15 Autopsies (including prenatal autopsies)

4000 surgical pathology cases

2000 cytopathology cases

50 complete Molecular Pathology Reports

200 Frozen Section (in person or assisting)

**Assessment and Recognition of Competencies**

During their training, doctors will acquire a variety of competencies. The acquisition of these competencies needs to be assessed and documented initially in a formative process and thereafter in a summative and maintenance process. Valid tools for assessing and documenting the successful acquisition of competencies must be available to trainees and trainers during the program. Although these instruments will vary throughout the European area, it is important that full documentation of competence acquisition occurs. The accreditation of a competence is primarily the teaching responsibility of the local supervising trainer and the learning responsibility of the trainee themselves. There is an ethical responsibility on both the trainer and the trainee to ensure that the accreditation of any

particular competence is valid from the viewpoint of patient safety: the ‘primum non nocere’ principle.

The ESBP does not validate individual competencies for individual trainees. Local requirements in the various pathology departments, hospitals, regions, and countries will determine which specialized competencies are necessary. There is an ethical requirement on a practitioner not to care for, or carry out procedures for, a case in which he/she, the practitioner, is not competent.

Trainees should be assessed in each domain within the curriculum on an annual basis with a recorded level of supervision with detailed comments to justify their entrustment decision.

An example of such an assessment tool can be seen below Level Descriptor

Level 1. Entrusted to observe only – no provision of pathologic diagnosis

Level 2. Entrusted to act with direct supervision:

The trainee may provide pathologic diagnosis, but the supervising pathologist is physically within the department or other site and is immediately available if required to provide direct supervision.

Level 3. Entrusted to act with indirect supervision:

The trainee may provide pathologic diagnosis when the supervising pathologist is not

physically present within the department or other site, but is available by means of telephone and/or electronic media to provide advice, and can attend if required to provide direct supervision

Level 4. Entrusted to act unsupervised

The educational supervisor should also indicate an appropriate global anchor statement to summate progress towards independent practice. An example of such statements is listed below.

**Global assessment anchor statements**

• Below expectations for this year of training: may not meet the requirements for critical progression point

• Meeting expectations for the year of training: expected to progress to next stage of training

• Above expectations for this year of training: expected to progress to next stage of training

Once training is completed the subsequent attainment of the FESBP by an individual doctor does not indicate that this doctor is immediately competent to practice as pathologist throughout the European area. Europe is a multi-cultured, multi-language, multi-state area. Thus, an individual doctor who wishes to practice medicine in any area of Europe must be au fait with the local language, cultural context, and legal framework to effectively practice medicine. Notwithstanding this, in European Law, language is not a barrier to the entitlement of an individual doctor to practice medicine. The attainment of the FESBP indicates that an individual doctor has achieved the ability to practice Pathology according to international European standards, but it does not guarantee competence in local language, cultural and legal matters. To effectively practice pathology and communicate with, a competence in these latter aforementioned factors is necessary, but their attainment is outside the scope of this curriculum.

**Quality Control in Pathology and Cytopathology practice**

**Academic Activities**

Trainees need to have and support an attitude of active inquiry and realize the value of continuing education and knowledge generation. As evidence of this, by the end of training,

trainees should ideally have two publications or presentations at National or International level as first or second author.

**Critical incident analysis**

Trainees should be able to recognize when the care/diagnostic process has been unsatisfactory, complete a report that accurately describes the events and patient outcomes, contribute to the analysis of the reasons for the unsatisfactory care, and determine which actions can be taken to decrease the risk of repeat events. Trainees should be able to contribute to morbidity and mortality conferences.

**Knowledge translation**

Trainees should be able to design, implement and evaluate programs that introduce new health care processes locally.

**Professionalism, Ethics & Medico-Legal Issues**

Trainees must operate within the legal framework of the country in which they are working. Yet, the law does not always provide the answer to many ethical problems. In these circumstances, Trainee must be able to produce a reasoned analysis based on ethical principles to determine moral duty, obligation and conduct (medical deontology).

Trainees must also be aware that the Patient-Reported Outcomes (PROs) such as Health-Related Quality of Life (HRQoL) are an essential component of cancer research as they provide critical insights into the effects of the pathology diagnosis related to therapy beyond disease response and survival outcomes. Collection and timely publication of PROs are necessary for evaluation of modern therapies.

**Professional behavior and attributes**

Trainees must be able to work professionally and efficiently with a diverse patient population, also under stressful circumstances; must be aware of their own limitations, recognize their own errors and value participation in the peer review process.

**Colleague in difficulty**

Trainees must be able to support colleagues in difficulty, and know how to access support to improve resilience.

**Patient confidentiality**

**Trainees must**

● Understand the legislation regarding patient confidentiality and data protection (Autonomy, informed consent & competence)

● Respect the rights of competent patients to be fully informed about the aspects of their care (including diagnostic procedures and extent of tests done in pathology), to be fully involved in decisions about their care, and to refuse clinical procedures or treatment

● Understand when and how to use advance directives such as living wills and durable powers of attorney

● Be able to assess whether a patient has the competence to make an informed decision.

**Forensic Issues**

Trainees should be aware of the relevant legislation in the country of practice regarding the preservation of forensic evidence. They should be able to document and appropriately handle evidence suggesting abuse, neglect or crime**.** For this reason, it is necessary to take part or, if absent, organize the “case discussion meetings” to present such cases and possible differentials.

The trainee should also be aware of mistakes in daily practice and be prepared for a reliable culture in which all errors are openly identified, investigated, and disclosed. In the occasional presence of significant medical complications resulting from mistakes or errors, the trainees are ethically required to inform the Colleagues and disclose to patients all necessary information. Errors do not necessarily imply negligence or behavior, but failure to disclose them may be unethical and full of consequences.

**Health Advocate**

Trainees should advocate healthy life-styles and where appropriate lobby for health of the population and sustainability of the healthcare system.

Should adopt life-style practices to maximize their own resilience and lobby their institutions and employers to improve their working environment in order to maximize their own resilience and those of their colleagues**.** In order that no untoward harm should occur, should be involved in quality improvement. There is an increasing need for consideration of environmental issues including waste arising from medical procedures and energy use. Trainees must be able to support colleagues in difficulty, and know how to access support to improve resilience.

**Continuous professional development**

Trainees must continue to develop their knowledge and practice by continuous education. They must identify for personal improvement and learn to apply scientific evidence and advances to improve patient care with acknowledgement of the development of pathology diagnostic procedures and tools.

Technology and information management is an imperative requirement in everyday routine work and trainees must stay up-to-date with implementation of new tools both in hardware and software, and fully understand the role of technology in delivering safe healthcare and the utility of data to manage resources and support innovation.

**Competence-Based Pathology Level expected**

Trainees will progress in competence from novice to expert and be able to recognize a clinical condition or problem and be able to independently provide definitive treatment. There will also be progression in skills in managing time, multi-tasking,supervision, leadership and other core professional skills. In this regard, 5 levels of competence are recognized:

● Level 1: recognize the general organization of the Pathology Department, assist experienced Residents and Laboratory Technicians, observing the general activity

● Level 2: manage simple conditions independently, acting with the direct supervisor present in the room

● Level 3: manage more complex gross reduction, with supervision

● Level 4: manage the majority of grossing independently and undertake microscopy reading, unsupervised, with tutor immediate proximity

● Level 5: provide guidance and leadership to others and supervise younger Resident activities.

**Entrustable Professional Activities (EPA)**

By definition, EPA are all those units of professional practice that may be entrusted to a trainee, to execute unsupervised diagnostic and technical decisions, once he/she has demonstrated the pertinent required competence. These acts require trust either by Colleagues, Patients, and the general public, with the relevant meaning from individual competence to the work that must be done.

The Trainee competencies have been extensively herein reported and can be summarized in theoretical and health system knowledge, technical skills, communication and management ability, and professional attitudes. The general qualities that enhance trust are **Ability** (skillfulness and experience), **Integrity** (truthfulness, benevolence), **Reliability**(conscientiousness, stable behavior), and **Humility** (observe own limits, willing to ask help). All these are personal characteristics of each subject, but all of them can be cultivated and improved.

The EPA are work descriptors of essential professional practice that in Pathology are

● Simple, rapid, effectively and timely reports

● Clear conclusions (Interpret, synthesize, and summarize knowledge)

● Continuous relationship with other Colleagues of the diagnostic area (laboratory Medicine, Microbiology, Imaging, interdisciplinary team, gives and receives feedbacks, ethical behavior)

● Continuous relationship with patient Physician (Responsiveness to patient’s needs)

● As well in some cases also relationships with the patient’s Family.

In medical education EPAs are guidelines that provide expectations for both trainees and teachers in order to evaluate the ability to perform a defined set of critical tasks with decreasing level of direct supervision and reach a complete and satisfactory autonomy. The aim is to fill the gap between competency and practical skill and responsibility, "entrusting" the trainee in specific professional activities that integrated multiple competencies.

In this context, EPAs for pathology include the following aims:

1. gathering the information provided by patient and perform appropriate physical examination necessary for taking the cytology (eg. FNA)

2. gathering the information provided with specimen and prioritized the following steps according pathology procedures

3. following microscopic examination with analysis of provided clinical data, prioritize differential diagnosis

4. recommend the common diagnostic additional procedures and tests and interpret basic test results

5. be able to present own point of view for the discussed case, enter discussion and provide conclusions

6. document all steps of the pathology procedure in patient’s record

7. document all steps of the pathology procedure in department archives

8. provide an oral presentation of the patient’s case

9. provide an oral presentation of the pathology issue during clinical encounter

10. be able to form a diagnostic and clinical questions and is able to retrieve evidence to advance patient care

11. give or receive patient’s material for following diagnostic procedure

12. collaborate as a member of interprofessional team

13. obtain informed consent for tests and/or procedures

14. perform general procedures of a physician

15. identify system failures and contribute to a culture of safety and improvement.

**Equality, Diversity and Inclusion**

Pathologists are mainly working in laboratories away from direct patient contact, with consequent little attention and scarce awareness to Ethics and Conduct, while only Cytopathologists performing fine-needle aspiration have contact with patients.

During the University courses and Residency, subjects such as professionalism, adherence to GDPR or SoHO, confidentiality or privacy, use of tissues for research, and obligations of pathologists in their roles as laboratory managers, remain frequently uncovered. Same occurs for communication and communication skills and use of social and media tools in professional activities.

New ethical concerns have also arisen with the evolution of direct-to-patient laboratory test reporting, which enables patients to access pathology or lab results without physician interpretation and explanation.

Trainees must be aware of the risks and benefits of the ease patients’ access to basic laboratory information as well as specialized pathology reports (in fact functioning as

consultation between specialists, e.g. clinician-pathologist) through the online portals without appropriate comment or consultation procedure.

Access to discussion and confrontation to medical humanities programs should also be considered in the curriculum.

**Accreditation in pathology department**

Accreditation in pathology department is a key element for the high quality of patients’ care it should include two aspects: diagnosis and technical work-flow. The process of formulation of disease diagnosis with delivery of standardized structured and complex document containing all needed information according to further treatment protocols usually are delivered by scientific societies. The inspection addressed to safety of working environment for pathology department staff including technical aspects of pathology samples is usually delivered by accredited National or International agencies dedicated to control of the technical process according to general rules (eg. ISO)

During residency, pathology trainees should be acknowledged with need of understanding of a good practice controlled by external agency/institution. The accreditation covers only the technical aspects. But the quality of diagnostic report can be improved by series of scientific confrontations with standardized complete pathology report. The standards for the technical protocols which enable delivery of high-quality cytology and histology slides for diagnosis are defined by international and national scientific societies and dedicated institutions. Understanding of differences between in-house quality control, use of ISO norms and accreditation standards delivered by national or international agencies will be discussed with indication of crucial differences and fields of evaluation.

**Quality management within training institutions**

The institution which conducts training in pathology should fulfill the following criteria:

1. professional department/laboratory of pathology with daily workload with biopsy material, surgical pathology, cytology and performing histochemical staining and immuno-cyto/histochemistry with at least access to molecular pathology department and autopsy room;

2. the number of cases and material from different organs should cover the whole spectrum of diagnoses required by training requirements; there is possibility to complete the spectrum of cases by written and “vivid” agreement with another pathology department – such cases the accreditation will be performed as one for joined institutions;

3. for the teaching purposes, there should be on-site appropriated equipment:

- eg. multi-headed microscope or large monitor for evaluation slides from microscope with camera or by use of whole slide image digital slides;

- access to current pathology protocols, standards, reference books, scientific journals – by on-line resources or library;

4. organized regular (weekly or monthly) teaching meetings with trainee;

5. periodical control of accomplishment of the training including number of performed procedures and acquiring of theoretical knowledge and skills;

6. control of attendance and certifications of mandatory and voluntary courses;

7. appropriate number of teaching specialists to the number of trainees;

8. the teaching staff and trainees should be supervised by internal (intra-institutional) accreditation team;

9. the technical equipment should be appropriate for the diagnostic needs;

10. the number of different pathological procedures should be appropriate for covering the spectrum of the training program (with at least 10% of oncologic material as well as at least 20% on non-oncologic material) and the number of trainees.

The training program in the institution is controlled by the head of pathology department and head of the hospital. They are responsible for adequate number of procedure and staff members.

The training program should be planned in advance with indication at least one year in advance of the obligatory and voluntary courses which should be taken by trainee.

The minimal example plan could cover:

1st year of training: basic histopathology

1st year of training: basic cytology

2nd year of training: histology and cytology cases including gynecological cytology

3rd year of training: basic oncologic pathology

3nd year of training: clinical cytology – advanced module

4th year of training: molecular pathology (oncology)

5th year of training: oncologic pathology – advanced module

**The reports on the progress of training should be reported (in log book or in dedicated system – local or national) continuously, with approval by the senior specialist (trainer; supervisor) at least every three months.**

The training institution should be controlled by an external agency (national or international) at least every 5 years by at least written declaration of fulfilling of the criteria, and with recommended on-site visits of accreditation experts.

The training program should be reflecting the ETRs with local/national modifications. The full program, number of procedures and accreditation requirements must be publicly visible – on the web page of appropriate institutions (e.g. national health ministry or another governmental agency).

The responsibility of coordination of the training program is covered by the institution. While the final approval and certification of the specialist level of competency acquired by the trainee is under national law (e.g. national board exam) or in the future based on UEMS Section Pathology Board Exam.

**III. TRAINING REQUIREMENTS FOR TRAINERS**

**1. Process for recognition as trainer**

**Training requirements for trainers and Process for recognition as a trainer.**

Trainers will be expected to have achieved the appropriate nationally recognized qualification to allow them to practice as a specialist/consultant in Pathology. A Program Director would be someone who has been or still is a trainer and who has considerable knowledge and experience in training doctors.

**a. Requested qualification and experience**

• **Recognized qualification and experience**

Trainers and Program Directors must be in active pathology practice and engaged in training in the training center or network.

The Director of Training should have at least five years of experience, post Specialist accreditation.

He/she must have a sound practical knowledge of the broad field of Pathology and must be recognized by the national authority. Likewise, the medical staff acting as educational supervisors should be actively practicing Pathology and be committed to residency training.

**b. Core competencies for trainers**

• **Core competencies for trainers**

A trainer should:

• Know all aspects of the overall Pathology curriculum and the problems related to its clinical implementation.

• Have experience in teaching theoretical aspects of diseases and acquisition of pathology skills.

• Be familiar with modern medical education principles and follow regular updates in leadership and mentorship.

• Understand the needs of the trainee to achieve the goals of the training program and help him/her to progress throughout the training period.

• Be able to promote in his/her mentee scientific curiosity as well as professionalism, ethical behaviors, and humanistic values.

**2. Quality management for trainers**

**Quality management for trainers**

The Pathology Faculty of Trainers should show itself to be committed to specialist education and provide appropriate time, space, facilities, and funding to protect the needs of education from the demands of service.

The members of the faculty should be experienced both as Pathologists and teachers, committing time, effort, and enthusiasm to the training program. They should regularly attend interdisciplinary meetings with surgeons, other pathologists, and radiologists. The faculty should be large enough to supervise the clinical and practical work of the trainees.

**• Supervision of Training**Trainees require continuing supervision of their pathology duties. In addition, supervision of their training program and schedule is required to ensure they are making sufficient progress, that milestones are being achieved and that the training curriculum is being covered. Thus, the trainee needs Educational Supervision. It is advisable, however, that Supervisor should not be remote from the pathology department environment in which the trainee works. Supervisor ideally should supervise no more than three trainees. If there is difficulty in recruiting a Supervisor for trainees rotating through several Training Centers, the local National Delegate to the European Section and Board of Pathology should be contacted to provide advice.

A Supervisor oversees the trainee’s ongoing work and provides constructive feedback.

Although all elements of work in training posts must be supervised, as training progresses the trainee should have the opportunity for increase in autonomous, reliable and effective diagnostic conclusions.

A Supervisor oversees the trainee’s educational progress in the context of the specialty curriculum. He or she reviews the trainee’s logbook or e-logbook, sets goals and provides

direction and advice on a regular basis. Educational Supervisors should be familiar with the use of assessment tools, how to support trainees in difficulty and how to give effective feedback including goal setting and career advice. Ideally, Supervisors should have attended a ‘Train the Trainers’ course.

**• Assessment and Appraisal of Training**

Supervisors should have an induction session with their trainees soon after enrolment, during which the training program and curriculum are explained and how the

various clinical aspects of training can be completed. In addition, each trainee should, on a

yearly basis, discuss and document a detailed training plan for the forthcoming year with their supervisor. In the first year of Pathology training, the trainee will require frequent formal feedback from their supervisor up to 2-3 times in that year.

Established assessment tools for appraisal of knowledge, skills and professional attributes should be used on an ongoing basis during training, and documentation of these appraisals should be maintained in association with the trainee’s logbook. The assessment of skills, especially problem orientated, diagnosis decision-making ability, appropriate selection of investigations, investigation interpretation and overall pathology judgements, is particularly

important. Different workplace assessment instruments may be used in various countries or institutions to document these clinical skills. Workplace assessment of trainee’s behavior and professionalism is normally carried out by surveys and feedback from colleagues and other members of the relevant multidisciplinary teams. Assessment of procedural skills need to be documented by each trainee in conjunction with his/her trainer – this is normally performed by direct observation of the trainee’s procedural skills.

Appraisal of training progression should be performed formally on a yearly basis jointly by the trainee and Supervisor by reviewing the trainee’s logbook and confirming evidence of the attainment of competencies in knowledge, skills and professional attributes and discussing other matters of relevance to completion of training. The appraisal of training before entering the final year of training is particularly important as deficits in training can be identified and plans made for remedy; for this reason, it is advisable that this particular appraisal involves an external assessor as well as the usual Supervisor.

• **Governance of Training**

The governance of an individual’s training program is the responsibility of the Program

Director and the institution(s) in which the training program is being delivered. A trainer will be responsible to the Program Director for delivering the required training in this/her area of practice.

**IV. TRAINING REQUIREMENTS FOR TRAINING INSTITUTIONS**

**1.** **Process for recognition as training center**

Training requirements for training institutions: a process for recognition as training center

Training in Pathology should be based in a university or larger regional department and cooperating smaller departments, or a university affiliated institution or in a facility with an equivalent educational, and/or research program, with the full complement of Medical, Surgical, and diagnostic services associated with a University Hospital. The Training Center should be housed in quality buildings which are well maintained. The Training Center must have appropriate facilities. Satisfactory premises for education are needed with teaching space, a library, and contemporary information technology/audio-visual teaching aids. The equipment in the pathology departments must be of a standard to provide good pathology and educational training. The Pathology Training Center should be in a hospital or Institution, which has surgical and radiology facilities with access to biochemistry, microbiology and if needed hematology laboratory facilities. The Hospital/Institution should also have a broad array of other medical subspecialty services for example such as cardiology, respiratory medicine, endocrinology/diabetology, hematology, nephrology, infectious disease, and oncology.

Suggested minimal number of pathological (oncological and non-oncological) cases per year per resident (pathologist in training):

- 2000 histological cases/year

- 2000 cytology cases/year

- there should be at least 10% of oncological cases and at least 20% of non-oncological cases

- 20 autopsies/year

**Rotations - Training Centers and One Center Training**

• Training Centers may be recognized by The European Section and Board of Pathology to be of such quality as to provide sufficient training for the total period of specialty training. Some Units, with high quality pathology facilities and training, may lack the full complement of training facilities and opportunities. These Units may be recognized by the ESBP as a Rotation Training Center of sufficient merit such that a Pathology Trainee will receive sufficient training for either a period of one year or a period of two years. A trainee may therefore fulfill the program of training by rotating between a number of recognized and formally cooperating training centers.

**a. Requirement on staff and clinical activities**

Suggested minimal number of pathological (oncological and non-oncological) cases per year in the institution there should be:

- 15.000 histological cases/year

- 5.000 cytology cases/year

there should be at least 10% of oncological cases and at least 20% of non-oncological cases

The teaching institution should perform pathology cases from at least five different organ systems and cover according agreement between different institutions all other organs if the trainee is unable to take knowledge and skills on the courses.

There should be at least 5 specialists who are eligible for teaching the trainees.

The one pathology specialist - the trainer - should supervise no more than 2 trainees, with attention to the scientific activity (posters and communications on national and international congresses and meeting; as well original papers and case reports in scientific journals)

**b. Requirement on equipment, accommodation**

The teaching institution should have an appropriate number of microscopes or computer stations in relation to number of specialists and trainees. There should be at least one microscope (multi-headed) on a computer station (with camera joined to a large screen) allowing same time evaluation of the case by two or more observers.

The technical equipment in the institution should allow for performing the intrasurgery rapid diagnosis, full cytology laboratory (including liquid based cytology) and histology department with histochemistry and complete immunocytochemistry panel.

The department should have full access to current standards, protocols and WHO tumor classifications, reference books for histopathology, cytopathology and surgical pathology.

**2. Quality management within training institutions**

**ACCREDITATION AND EXAMINATION**

**TRAINING CENTER ACCREDITATION**

The UEMS arranges peer review of training centers to ensure the quality of training centers. Site-visits are the key component for the UEMS Commission to secure the quality of training in Pathology.

They are considered as the most valuable contribution to maintaining high standards of training. At current training centers, the trainers are encouraged to apply for the Certificate of Fellowship of the European Section and Board of Pathology.

Inspections are conducted, within guidelines, by two external assessors, nominated by the Board. Centers granted approval are re-evaluated every five years. Major changes in the institution should be reported to the Training & Recognition Committee. A diploma will be issued to a training center fulfilling all requirements, approving it as a Training Center of the European Section and Board Pathology. A certificate of visitation with a letter of commendation may be issued to a visited training center, fulfilling most but not all ESBP requirements. The site-visits are intended to encourage the establishment of high-quality national training programs which should fulfill the requirements of Pathology ETRs.

**THE EUROPEAN SPECIALTY EXAMINATION IN PATHOLOGY (ESEP)**

**Introduction**

The ESEP will be a fully validated assessment of knowledge of Pathology, as described in the curriculum above. This Examination is organized in close collaboration between the ESP and CESMA.

**Eligibility requirements**

There are no restrictions - other than fulfilling formal professional criteria - to entry for the ESEP. There is no limit to the number of attempts that can be made.

**The purpose of the ESEP**

Success in this examination is a demonstration of having achieved the knowledge necessary

to fulfil the requirements of the ESBP curriculum, which is a Europe-wide description of the

level expected of a Pathology specialist. But it should be stated that a medical license to work as a specialist pathologist in the given country is given by the local government which could use the ESEP. The examination is currently delivered once a year.

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**THIS DOCUMENT WAS DISCUSSED AND APPROVED BY UEMS PATHOLOGY REPRESENTATIVES FROM Austria, Belgium, Croatia, Cyprus, Czech, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovenia, Spain, Sweden, Switzerland, Turkey and associate country Ukraine and United Kingdom.**

Addendum

**MEMORANDUM OF UNDERSTANDING BETWEEN UEMS AND ESP**

This Memorandum of Understanding (“MoU”) is entered into effective January 1, 2018 (the “Effective Date”) by and between the European Union of Medical Specialists/section Pathology (“UEMS”), a Belgian not-for-profit organization, whose address is at 24 Rue de l’Industrie, 1040 Brussels, Belgium and the European Society of Pathology (“ESP”), a Belgian not-for-profit organization whose address is at Rue Bara 6, 1070 Brussels, Belgium (hereinafter referred to singularly as a “Party” and collectively as “the Parties”).

**Section 1. Purpose**

The purpose of this MoU is to memorialize the mutual commitment of the parties to collaborate and to enhance the delivery of educational offerings by the two organizations. Initially, this collaboration will focus on pathology educational offerings and standard setting for training and practice (as listed in Section 2 below). Other areas such as co-development of educational courses and submitting joint applications for EU funding may be considered in the future (as listed in Section 3). This MoU identifies the initial educational offerings for which ESP and UEMS have agreed to collaborate and also sets forth the general terms and conditions applicable to the collaboration.

**Section 2. Initial Opportunities**

**2.1. Educational Offerings**

A. Production of a large dataset of questions intended for the ESP Pathology Progress Test and for the UEMS Board of Pathology Examination. Both tests would be deemed as practical external tools for pathology life-long learning quality assurance.

B. Development of protocols for the transfer of the Pathology Progress Test database as the future Board for the Pathology Certificate in European countries, fulfilling the Bologna declaration of professional mobility.

C. E-Learning educational resources. Both parties work together to determine the best method of access to the e-learning educational resources.

**2.2. Standard Setting for Training and Practice and Political Lobbying**

A. Definition of a European Training Agreement. Setting up the minimal requirements to become recognized as a specialist in pathology across Europe.

B. Joint task forces to increase the interest in the specialty of pathology and to improve the quality of pathology practice at the European level.

**Section 3. Potential Future Opportunities**

A. Joint application for EU funding.

B. Co-development of educational courses/products.

C. Enhance pathology training in Former Eastern European Countries.

D. Share best practices including operations and program development.

**Section 4. Cooperation**

ESP and UEMS will cooperate and hereby commit to regular and timely communication with each other in order to facilitate this MoU and help ensure their mutual success in the areas in which they have agreed to collaborate.

Each association will actively promote the collaborative efforts of the parties to provide education offerings under this MoU and will assist each other in promoting their separate products.

ESP and UEMS will explore the development of an appropriate mechanism to gain understanding of each other’s needs that may lead to additional opportunities for collaboration for educational offerings.

**Section 5. Term, Assessment and Reciprocities**

The term of this MoU shall commence on the Effective Date and shall continue for indefinite term; provided that either party may terminate this MoU by giving written notice. This MoU will be re-evaluated on an annual basis by both parties. Party’s designated representatives will be invited to attend the other party’s Council meetings.

**Section 6. Publicity and Confidentiality**

ESP and UEMS shall work closely with each other in announcing this MoU through the appropriate public relations and communication channels. ESP and UEMS shall consult each other before issuing any separate press release or other public announcement or communication regarding the subject matter hereof.

**Section 7. Notices**

All notices shall be in writing and shall be deemed given if delivered personally, by courier or mailed by prepaid registered or certified mail (return receipt requested), or by express mail, overnight delivery, or facsimile transmission (followed by hard copy), addressed as follows:

(a) If to ESP, to:

Dina Tiniakos, M.D., PhD, FRACPath

ESP President

(b) If to UEMS, to:

Ambrogio Fassina, MD. Prof.

President

UEMS Section of Pathology

**MEMORANDUM OF UNDERSTANDING BETWEEN UEMS AND EFCS**

This Memorandum of Understanding (“MoU”) is entered into effective February 1st 2025 (the “Effective Date”) by and between the European Union of Medical Specialists/section Pathology (“UEMS”), a Belgian not-for-profit organization, whose address is at 24 Rue de l’Industrie, 1040 Brussels, Belgium and the European Federation of Cytology Societies (“EFCS”), a Belgian not-for-profit organization whose address is at Ingenieur David Hansenstraat 72650 Edegem, Belgium (hereinafter referred to singularly as a “Party” and collectively as “the Parties”).

**Section 1. Purpose**

The purpose of this MoU is to memorialize the mutual commitment of the parties to collaborate and to enhance the delivery of educational offerings by the two organizations. Initially, this collaboration will focus on cytopathology educational offerings and standard setting for training and practice (as listed in Section 2 below). Other areas such as co-development of educational courses and submitting joint applications for EU funding may be considered in the future (as listed in Section 3). This MoU identifies the initial educational offerings for which EFCS and UEMS have agreed to collaborate and also sets forth the general terms and conditions applicable to the collaboration.

**Section 2. Initial Opportunities**

**2.1. Educational Offerings**

1. Production of a large dataset of questions in the field of cytopathology for the UEMS Board of Pathology Examination which is deemed as a practical external tool for pathology life-long learning quality assurance.
2. Production of curriculum of advanced training in sub-specialty (special field of interest) of cytopathology (as listed in Chapter 3).
3. E-Learning educational resources. Both parties work together to determine the best method of access to the e-learning educational resources.

**2.2. Standard Setting for Training and Practice and Political Lobbying**

C. Definition of a European Training Agreement. Setting up the minimal requirements to become recognized as a specialist in pathology, and sub-specialist in cytopathology across Europe.

D. Joint task forces to increase the interest in the specialty of pathology and sib-specialty of cytopathology and to improve the quality of cytopathology practice at the European level.

**Section 3. Potential Future Opportunities**

E. Joint application for EU funding.

F. Co-development of educational courses/products.

G. Enhance cytopathology training in Former Eastern European Countries.

H. Share best practices including operations and program development.

**Section 4. Cooperation**

EFCS and UEMS will cooperate and hereby commit to regular and timely communication with each other in order to facilitate this MoU and help ensure their mutual success in the areas in which they have agreed to collaborate.

Each association will actively promote the collaborative efforts of the parties to provide education offerings under this MoU and will assist each other in promoting their separate products.

EFCS and UEMS will explore the development of an appropriate mechanism to gain understanding of each other’s needs that may lead to additional opportunities for collaboration for educational offerings.

**Section 5. Term, Assessment and Reciprocities**

The term of this MoU shall commence on the Effective Date and shall continue for indefinite term; provided that either party may terminate this MoU by giving written notice. This MoU will be re-evaluated on an annual basis by both parties. Party’s designated representatives will be invited to attend the other party’s Council meetings.

**Section 6. Publicity and Confidentiality**

EFCS and UEMS shall work closely with each other in announcing this MoU through the appropriate public relations and communication channels. EFCS and UEMS shall consult each other before issuing any separate press release or other public announcement or communication regarding the subject matter hereof.

**Section 7. Notices**

All notices shall be in writing and shall be deemed given if delivered personally, by courier or mailed by prepaid registered or certified mail (return receipt requested), or by express mail, overnight delivery, or facsimile transmission (followed by hard copy), addressed as follows:

(a) If to EFCS, to:

Danijela Vrdoljak-Mozetič, M.D., PhD, Assoc. Prof.

EFCS Secretray General

(b) If to UEMS, to:

Ambrogio Fassina, MD. Prof.

President

UEMS Section of Pathology

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