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UEMS Policy Statement on Assessments during Specialist Postgraduate Medical Training

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I. Summary

This paper sets out the policy of the Union Européenne des Médecins Spécialistes / European Union of Medical Specialists (UEMS) on assessment during specialist postgraduate training (PGT), which is defined here as the component of the evaluation of specialist PGT required to improve trainee learning / training, in order to award specialist certification and to assure the quality of training. Its aim is to provide a framework for confirming the highest quality of specialist PGT in Europe.

This UEMS policy paper builds upon considerable evidence found in many parts of Europe of the successful use of different types of assessment of both the individual trainee's progress and quality and of the training process itself. Among the fundamental features of these are that they are solely and in most cases autonomously performed by specialist doctors, who are responsible for the appropriate quality control of PGT. Accordingly, the UEMS recognises its responsibility to develop policy based on this experience and invites all interested parties to support this.

This policy paper provides guidelines that can be adopted for use in specialist PGT systems in all European countries. It is intended to review the various recommended types of assessments which can be used during the course of specialist PGT. Special emphasis is given to designing a comprehensive assessment plan for each individual trainee, where an appropriate balance between formative, in-training assessments and final summative assessments must be assured while the assessment methods used be both valid and reliable. Assessment should be an on-going process throughout medical training. One of the core messages of this document is that attention should be placed on the different methods of in-training assessment of knowledge and skills.

Some UEMS Specialist Sections and Boards have, for a long time, organised European examinations, in order to recognise common and harmonized standards on the quality assurance in specialist training and specialist practice at a European level. It must be emphasised that while they have no legal status at a European level or nationally – other than in Switzerland – they are an asset in a specialist doctor's CV and portfolio being an international mark of the quality of training.

The UEMS considers that the appropriate use of different methods of assessment of knowledge and acquired skills is an essential component of quality PGT, focused on high standards of specialist medical practice. The other parts of that agenda include both assurance of high quality specialist PGT curricula and the appropriate environment to implement them. These issues are separately covered in the **1995 UEMS Charter on Postgraduate Training** (especially its Chapter 6, which addresses the specific training programmes for all officially recognized medical specialties in Europe) and the **1997 UEMS Charter on Visitation of Training Centres**.

The following list of key points, drawn from the ensuing text, expands on this summary.

II. Key points

1. Assessment represents an integral aspect of specialist postgraduate training (PGT) programmes, where at the end of which the trainee should be able to demonstrate a level of competence and knowledge suitable for independent practice in his/her chosen specialty.
2. Assessments are used as part of the evaluation of specialist PGT to improve trainee learning/training, to award specialist certification and to assure the quality of training.
3. Assessment of the quality of training should be a continuous process and should take place at different levels and in different ways; when PGT is being assessed, both the process of training and its product – the newly accredited medical specialist - should be considered.
4. Assessment can apply to all activities that trainers/tutors and trainees/doctors in training undertake in order to enhance PGT and education.
5. Assessments must document the adequacy of training and the methods and practices used should encourage integrated training/learning and assess predefined competencies as well as knowledge, skills and attitudes.
6. Assessments should be conducted throughout a training programme according to a comprehensive assessment plan.
7. Assessments in general are divided into two types, either formative or summative - the distinction between these lies in the purpose for which that assessment is used. A third, less frequently seen procedure, is training process assessment.
8. Formative assessments are intended to inform trainees on how to improve on the knowledge and skills - the emphasis is on encouraging more understanding in the trainees in relation to their strengths, weaknesses, gaps in knowledge and skills.
9. During training the progress of the trainee's knowledge, clinical skills and personal interaction with patients, colleagues and staff should be monitored continuously within their daily work performance.
10. Peer-assessment and self-assessment are processes which can increase a trainee's autonomy, advance their understanding of the subject, elevate the passive status of trainee to assessor, involve trainees in critical reflection and demonstrate to them the concepts of subjectivity and judgement.
11. Summative assessments represent a test of the minimal required competence in the wide range of knowledge, skills and attitudes required for an independent practitioner in specialist medical practice, and as such are used to sum up a trainee's achievements.
12. Summative assessment is comprehensive in nature, provides accountability and is used to check the level of learning/training. It can take place at key stages within a training programme and at the end of the whole postgraduate medical training.

13. Some UEMS Specialist Sections and Boards have, for a long time, organised European examinations as one method of quality assurance of specialist training at a European level. The outcome of these examinations have no legal status either nationally or at European level but should be considered as an asset in a specialist doctor's CV and portfolio.

III. Preamble

Established in 1958, the Union Européenne des Médecins Spécialistes/ European Union of Medical Specialists (UEMS) is the representative organisation for specialist doctors of the EU/EEA countries. Its activities cover all issues associated with specialised medical practice, and are jointly carried out by doctors serving as representatives on its Council and on its nearly forty Specialist Sections and Boards.

Among the key international objectives of UEMS are the study, promotion and harmonisation of the highest level of training of medical specialists within and beyond the EU/EEA. The purpose of specialist postgraduate medical training (PGT) is such that at the end of the training programme the trainee will be able to demonstrate a level of competence suitable for independent practice in his/her chosen specialty. To achieve this goal, the training process, the trainee, the trainer and the training institutions must meet the standards and criteria laid down by the appropriate National Training Authority and by the individual training programme and be in accordance with the recommendations of the UEMS Charter on Training of Medical Specialists, and Chapter 6 thereof. Postgraduate curricula should also refer to the *WFME (World Federation for Medical Education) Global Standards for Quality Improvement in Postgraduate Medical Education*) adopted in June 2002.

The UEMS recognises that it has a responsibility to encourage the highest quality in the process of specialist PGT, which will subsequently lead to high quality medical care of patients. UEMS will therefore develop and share policy that will support this throughout Europe. The UEMS recognises and values differences in the structure, processes and outcomes of specialist PGT within different healthcare systems in Europe. These should all support quality medical care that is responsive to local needs, whilst encouraging innovation and learning from successful models that represent best practice.

Key reasons for the use of assessment as part of the evaluation of specialist postgraduate medical education and/or training include:

- Improved trainee learning/training
- Quality Assurance (to improve training and to monitor standards of training), and
- Awarding specialist certification.

IV. General principles

IV.1. Definition and purpose of assessment

Assessment can apply to all activities that trainers/tutors and trainees/doctors in training to enhance postgraduate medical training and education. Under this definition, assessment encompasses the trainer's observation, discussion, and analysis of the trainee's work.

The main purpose of assessments is to provide feedback to trainees about the learning/training that has occurred, to provide feedback to trainers/tutors about the training and learning processes and to provide information on which to base judgments about how well trainees meet the general objectives of the postgraduate medical training program/curriculum/course including the use of the trainee's personal logbook. The log-book should serve as the essential core document in the quality assurance of the training. The process of assessment should emphasize formative in-training methods and constructive feedback.

Any form of PGT must include a process of assessment, where the competent authorities clearly define and state the methods to be used for the assessment of trainees, including the criteria for passing examinations or other types of summative assessment.

IV.2. Methods of assessment

In general, assessments are divided into two types, either formative or summative assessments - the distinction lies in the purpose for which that assessment is used and by the point in the training programme at which the assessment occurs. The third, less frequently seen procedure, is training process assessment.

Formative assessment implies that the results will be used in the formation and continuous improvement/revision process of training/educational programs. Assessments become formative when this information is used to adapt training and learning to meet the trainee's needs. Qualitative methods are especially useful in formative assessments. The tools that allow trainees to self-assess their current level of knowledge and/or competence, during an ongoing training/educational experience, are also a kind of formative assessment.

Summative assessment in many cases serves the purpose of confirmation documentation outcomes. It is used for reporting, for accreditation, for evaluating personnel for promotion, for certifying the achievement of trainees, and in many aspects for marketing the quality of a programme. Because of its documentary nature and the fact that its purpose is to judge value, summative assessment is more frequently quantitative than is a formative assessment.

Assessment of the training process begins with the identification of project milestones, activities to be undertaken, outcomes to be achieved, and/or resources likely to be incurred in the course of attaining the final goals of the training process. The process assessment determines whether certain predefined markers have been reached on schedule and outcomes produced. The degree of difference from the defined plan is used to evaluate success.

IV.3. Assessment plan

Assessment can be performed at various times throughout a PGT programme and a **comprehensive assessment plan** will include both formative and summative assessment. In designing an assessment plan, it is important that the assessment principles, methods, tasks, conditions and criteria promote learning and are compatible with the general objectives and the training/learning experiences. Assessment then is an integral aspect of a training course.

The assessment plan should consider:

- the balance between formative and summative assessment,
- the number of examinations and other tests,
- the balance between different types of examinations,
- the use of normative and criterion – referenced judgements, and
- the use of a portfolio and
- special types of examinations, e.g. **Objective Structured Clinical Examinations (OSCE)**.

Attention should be given to using a variety of methods and measures in order to have a comprehensive plan. Ultimately, the basis for an assessment plan is to collect summative assessment data. Formative assessment data, however, can also contribute to a comprehensive assessment plan by identifying particular points in a program to assess training/learning (i.e. entry into a program, before or after an internship experience, impact of specific courses, etc.) and monitoring the progress being made towards achieving training/learning outcomes.

In formulating assessment regimes, it is necessary to ensure that:

- the assessment supports learning
- the choice of assessment allows reasonable judgement to be made about the extent to which the trainee has achieved the intended outcomes
- there is consistency between the expected outcomes of the programme, the training methods, and the ways in which the outcomes will be assessed

The assessment must document the adequacy of training. The assessment methods and practices should encourage integrated training/learning and should assess predefined practice requirements as well as knowledge, skills and attitudes. The methods used should encourage a constructive interaction between clinical practice and assessment.

An appeal mechanism regarding assessment results should be established and, when necessary, a second opinion, change of trainer/supervisor and/or supplementary training should be arranged.

IV.4. Validity and reliability of assessments

Assessments should be both valid and reliable. Validity describes the extent to which the assessment measures what it purports to measure, and the reliability of achieving this consistently.

Validity can be assured by:

- carefully matching the assessment with the training objectives, the content and the training methods;
- increasing the sample of objectives and content areas included in any given assessment;
- using assessment methods that are appropriate for the objectives specified;
- employing a range of assessment methods;
- improving the reliability of the assessment.

Reliability can be assured by:

- ensuring that questions are clear and suitable for the level of the trainees;
- ensuring that time limits are realistic;
- ensuring that instructions are simple, clear and unambiguous;
- developing high quality marking schemes.

The reliability and validity of assessment methods should be documented and evaluated and the use of external examiners should be encouraged. A complementary set of assessment methods should be applied. Evaluation of assessment methods may include an evaluation of how they promote training and learning.

V. Formative Assessment

V.1. Definition and purpose of formative assessment

While many educators (trainers, tutors) are still highly focused on summative/end of training examinations, it is important to consider that over the course of training, trainers can build in many opportunities to assess how trainees are progressing and then use this information to make beneficial changes in instruction. Such a diagnostic use of assessment to provide feedback to trainers and trainees over the course of the instruction is called formative assessment. It stands in contrast to summative assessment, which generally takes place after a period of instruction and requires making a judgment about the training that has occurred.

Thus, formative assessment could be defined as any task that provides feedback to trainees on their training achievements. It is intended to inform trainees how to improve their knowledge obtained and skills developed. The emphasis in formative assessment is in encouraging more understanding in trainees in relation to their strengths, weaknesses, gaps in knowledge and skills.

Constructive trainee feedback on their performance must be given on an ongoing basis. Feedback should include assessment results and planned dialogue about clinical performance between trainees and trainers/supervisors with the purpose of ensuring instructions and remedies necessary to enhance competence development. Acceptable standards of performance should be explicitly specified and conveyed to both trainees and supervisors.

Feedback given as part of formative assessment helps trainees become aware of any gaps that exist between their desired goal and their current knowledge, understanding, or skills and guides them through actions necessary to achieve their goals. Specific comments about errors and specific suggestions for improvement are the most helpful type of feedback and encourage trainees to focus their attention on the identified task(s).

V.2. Types/methods of formative assessment

Formative assessment can be done both at the beginning and during a program, thus providing the opportunity for immediate evidence for the trainees learning in a particular rotation, or at a particular point in a postgraduate medical training program.

During training, the progress of the trainee's knowledge, clinical skills and personal interaction with patients, colleagues and staff should be monitored continuously in her/his daily work performance. Review of knowledge and skill of the trainees should take place periodically focusing on knowledge and clinical skills obtained during the preceding training period. Besides purely clinical contents, a certain level of knowledge and skills in leadership, communication and administration should also be achieved.

It is possible to judge whether trainees have achieved certain training/learning outcomes using different types of formative assessments:

- thinking critically / making judgements,
- solving problems / developing plans,

- performing procedures,
- managing/developing oneself,
- demonstrating knowledge/understanding
- designing/creating,
- communicating,
- accessing/managing information.

The trainee should submit a periodic personal training report. The trainee should be questioned about their personal clinical experience and the quality and quantity of developmental activities. A useful element in this assessment can be the detailed documentation of their training experiences in the official logbook that must be kept by the individual trainee. This also serves as a personal folder to record all competencies acquired during training.

In some countries there is an increasing trend towards assessing junior doctors' competency using the **Record of the In-Training Assessment process (RITA)**. It is necessary to consider when there is a need to assess competency, how it may be done practically, and the advantages and disadvantages of this system of assessment. There are considerable hurdles to the implementation of this system in medical specialties and in many countries the organisation of specialist postgraduate medical training may need to undergo fairly radical change to facilitate this system.

V.3. Peer-assessment and self assessments

These are processes by which a trainee is given some responsibility for making judgements about the quality of their own work (self-assessment) or that of others (peer-assessment).

Trainees should be slowly introduced to these processes of assessment because they need to develop the skills of judgement and they may need to be convinced of its value. They will need clear criteria when assessing themselves or their peers.

Self-assessments and peer-assessments can support an increase the trainee's autonomy, advance understanding of the subject and elevate the status of the trainee from passive learner to assessor. They may also involve the trainees in critical reflection that demonstrate to trainees the concepts of subjectivity and judgement. These assessments should only be used in a formative (feedback) manner.

V.4. Other forms of assessment that can be used in a formative manner

In addition to the frequently used formative methods, there is a variety of other, less frequently used assessment possibilities, such as:

- tutorial participation,
- OSCE,
- book review,
- problem-based examinations,
- journal clubs,

- trainee portfolios,
- medical case presentations,
- peer tutoring/teaching,
- critical incident analysis,
- adverse events/near misses reviews,
- critical evaluation of research literature,
- use of computer software,
- critique of a recent article.

Regular appraisals, for example by meetings between the educational supervisor and the trainee to monitor their progress, should also be an important part of the training programme. Furthermore, evaluation of technical skills, clinical experience, and career advice may help to improve the overall standards of assessment.

VI. Summative / Final Assessment

VI.1. Definition and purpose of summative assessment

Assessments used to sum up a person's achievements are often called summative assessment. Their reliability is essential as the outcomes can be used to rank the trainee's results. With regards to PGT in medicine, summative assessment must represent a test of minimal competence in the wide range of knowledge, skills and attitudes required for an independent practitioner in specialist medical practice.

Summative assessment is the culminating task that will require trainees to draw upon all they have developed throughout the training process in order to demonstrate their knowledge, skills and understanding. It could take place either at the end of the whole postgraduate medical training programme or at the various stages of the training process such as at the end of basic training, the end of every year of training and the end of training in an individual training post or clinical rotation period.

Formal summative evaluation may be performed into the various aspects of an individual specialty, based on national regulations and in accordance with the recommendations of the UEMS Charter on Training of Medical Specialists (detailed for each specialty in Chapter 6). Any such concluding assessment of the trainee at the end of training should be based upon review of knowledge, clinical skills and personal interaction with patients, colleagues and staff. However, the task of summative/end of training assessments for external purposes only provides a snapshot of a trainee's performance on a given day under examination conditions and remains quite different from the task of formative assessment of monitoring and improving a trainee's progress.

VI.2. Performing summative assessments

The best summative assessments often incorporate the essential question(s)/problem(s) that have determined the assessment objectives requiring trainees to answer one or more essential questions drawing upon ideas from their personal experience from the theoretical texts studied, as well as from any new problem(s) encountered as a part of the assessment.

Rather than a mere reproduction of factual knowledge and information performing summative assessments must involve the evaluation of clinical/bedside & technical skills (applicable to an individual specialty) and the application of concepts and understanding to new problems in a different concept,. Traditional written tests (with multiple-choice, true/false, and short answer/ modified essay questions) are poor summative assessments because they rarely require the application of skills and concepts or the demonstration of understanding.

VI.3. Formal in-training Summative Assessments

Since there is an increase rise in the level of clinical competence, responsibilities, and leadership qualities expected from a trainee when he or she enters higher specialist training, it has been claimed that an essential part of training is to regularly assess the progress of the trainee and the quality of training.

Many National Authorities responsible for postgraduate medical training in various European countries demand that all trainees must have a formal assessment at the end of each training post. In order to get optimal value from these assessments targets and educational objectives should have been previously established and the progress of the trainees monitored.

VI.4. Summative Assessments at the end of training programmes

Summative assessment is comprehensive in nature, provides accountability and can be used to check the level of learning/training at the end of a training programme. Programme goals and objectives often reflect the cumulative nature of the training/learning that takes place in a programme. Thus the programme would conduct a summative assessment at the end of the programme to ensure that the trainers and trainees have met the programme goals and objectives.

If upon completion of a programme trainees have the knowledge/skills to pass an accreditation examination, taking the assessment would be summative in nature since it is based on the cumulative training/learning experience.

VII. Assessment of Qualifications

A specialist is a doctor who has completed their postgraduate specialist training and may, practice independently in their specialist discipline. In some countries, postgraduate specialist training is long and includes so much practical experience that it is possible to obtain a senior post in a hospital, or establish a private practice immediately after receiving a specialist diploma. In other countries a specialist diploma only makes the physician eligible for an intermediate post in a hospital.

Specialist recognition/registration is the best assurance to the public of the ability of a doctor to practise their specialty without supervision.

There are different statutory provisions in place governing the registration of medical specialists throughout the different European countries. Generally the provisions hold that for an individual to be registered as a medical specialist, he must have a qualification which in the opinion of the National Authority, affords sufficient guarantee that he/she has the requisite knowledge and skill for the safe practice of medicine and possesses a certificate of experience considered by the National Authority to be equivalent to that required for formal qualification.

Doctors who are nationals of an EU member state and hold both a recognised European primary medical qualification and a recognised European specialist certificate may apply directly for entry to the Specialist Registers in various European states. This is because there are automatic recognition arrangements enshrined within European legislation to facilitate the free movement of European nationals throughout the European Union.

The specialist qualification does not have to be awarded from the same country as the primary medical qualification. A list of the specialist medical qualifications is set out in legislation for mutual recognition purposes in the EU Directive on the Recognition of Professional Qualifications (2005/36/EC).

VIII. Guidance for UEMS Board certification

In general all assessments of candidate medical specialists / trainees should take place with regard for national rules, EU legislation and UEMS / European Board recommendations.

Professional recognition and the free movement of medical doctors/specialists are governed by the directives of the European Union.

Several UEMS Specialist Sections and Boards have for a long time organised European examinations. These examinations serve as one method of a quality assurance process of specialist training and specialist practice at a European level. They can be recommended as an appropriate form of summative final assessment. It should be noted that with the exception of some specialties in one particular country, they are not part of the formal professional recognition of specialist doctors and they have no legal status

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either nationally or at the European level. Nevertheless they may be considered as an asset in a specialist doctor's CV and portfolio.

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