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ESICM STATEMENT

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European Society of Intensive Care Medicine statement: Intensive care medicine in Europe – structure, organisation and training guidelines of the Multidisciplinary Joint Committee of Intensive Care Medicine (MJCICM) of the European Union of Medical Specialists (UEMS)

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Abstract This article describes the structures and institutions in the European Union by which professional training and qualification in medical specialities will be harmonised. All main medical specialities are represented in the European Union of Medical Specialists (UEMS) by speciality sections. For intensive care medicine, as a multidisciplinary speciality, a new structure of a Multidisciplinary Joint Committee of Intensive Care Medicine (MJCICM) within the UEMS was established in 1999. In this MJCICM the European Society of Intensive Care Medicine and the European Society of Paediatric and Neonatal Intensive Care are represented by delegates without voting capacity in a Standing Advisory Board. Statements and recommendations which the MJCICM has worked out until now are presented: Definitions of intensive care medicine, structural conditions for education and training, continuing medical education, criteria for accreditation of intensive care medicine training centres, common core curriculum for optional specialist training in intensive care medicine, as well as an intensive care units accreditation visiting programme and standards for medical treatment and nursing care.

Introduction

In 1957, the Treaty of Rome promoted the free movement of nationals of the member countries, but did not guarantee migrating doctors the right to exercise their medical profession in other member states. Medical Directives issued in 1975 and 1986, which resulted in the Medical Directive 93/16/EC, rectified this situation. This directive provided a legal aspect for the mutual recognition of medical qualification at basic, and training at postgraduate levels. The directive states that member states are obliged to harmonise their medical training systems in order to comply with the minimum requirements, which have been laid down.

In 1958, medical specialists from the then European Economic Community (EEC) formed the European Union of Medical Specialists (UEMS). The statutory purpose of the UEMS is the harmonisation and improvement of the quality of medical specialist practice in the European Union (EU). Specialist sections were formed in 1962 so that general criteria and comparable levels of training in member countries could be established.

To co-ordinate European professional medical organisations, universities and national governments, the European Commission established the Advisory Committee on Medical Training (ACMT). This committee advises the European Commission and, through it, the Council of Ministers. The specialist sections inform the ACMT via the UEMS executive committee and the Standing Committee of European Doctors. The activities of the UEMS for specialists' training and education over the past 45 years in the European Union has been described in detail elsewhere [1].

The European Union of Medical Specialists (UEMS)

The UEMS, on the strength of the Directive, produced a Charter on Training of Medical Specialists in 1993. Other charters were compiled to consolidate training objectives and maintain quality of education. These are:

- The Charter on Continuing Medical Education (1994)
- The Charter on Quality Assurance (1996) and Charter on Visitation of Training Centres (1997)

These charters may be found on the UEMS website [2]. The Charter on Training provides definition of the structure of training institutions, teachers and trainers: to compile this charter, national authorities were consulted; national programmes and rules were produced and European Union legislation followed, i.e. Directive 93/16/EC. The main body of the charter in general terms concerns all specialities. It required individual speciality input that resulted in Chapter 6 of the charter.

The individual sections' work was mainly on general professional matters. To expedite the establishment of Chapter 6 requirements, each section was asked to form educational boards. Similar to the sections, each EU member state has two elected representatives on the board, one from the academic professional body and one from the practitioners' body. The established board can co-opt other professional bodies and persons to form its working group.

The situation of intensive care medicine in Europe

Intensive care medicine (ICM) in Europe is, with the exception of Spain, not an independent speciality, it is a multidisciplinary speciality. The UEMS and the European Government Committee (which advises the ACMT) have agreed on this concept. It is practised by specialists of different disciplines. Member states of the European Union have no unified approach in assuring competence in the training and practice of intensive care medicine [3]. In some European states, e.g. the Scandinavian members, Germany and The Netherlands, separate specialist bodies have developed a combined approach to quality control. In other states, there is less cooperation between specialised groups and a more individual development to assure competence in intensive care medicine is emerging. Quality control in some states has yet to be affected. The European Society of Intensive Care Medicine has established its own quality control programme [4]. However, a European body representing the member states' national specialist groups, needs to be formed to achieve European training aims in intensive care medicine.

Although the representation of intensive care medicine in the UEMS was previously assigned to the section of anaesthesiology, reanimation and intensive care by the ACMT, the UEMS board recognised that, whilst the majority of practice was provided by anaesthesiologists, intensive care medicine would best be served by a multidisciplinary approach so as to avoid fragmentation. The section of anaesthesiology within the framework of the UEMS proposed to establish a multidisciplinary committee for this speciality. Initial contact through the ACMT to all the sections of the UEMS led to the establishment of the Multidisciplinary Joint Committee of Intensive Care Medicine (MJCICM) which was set up at a meeting of the presidents and secretaries of the UEMS sections on 8th May, 1999 in Brussels.

The European Union of Medical Specialists (UEMS) Multidisciplinary Joint Committee of Intensive Care Medicine (MJCICM)

The task of the MJCICM is to harmonise training programmes and achieve minimum standards of training and expertise among the member European Union states. This harmonisation will promote the free movement of doctors and specialists, which is the prime aim of the European Union. The main aims of the MJCICM are:

1. The harmonisation of the training and practice of intensive care medicine in Europe with the establishment of minimum acceptable standards.
2. The individual assessment of quality of training in intensive care medicine should be by means of an examination.
3. Assessment of the quality of training and practice of intensive care medicine in training centres by means of a visiting programme.

The operating procedure of the MJCICM is:

- Each participating section involved in intensive care medicine should be represented by the respective president and/or secretary of that section or that section's nominated representative to the MJCICM. For reasons of continuity it is recommended that members should be appointed for a period of 4 years as long as they remain delegates within their section (re-election twice).
- Standing Advisory Board:
- A maximum of three delegates of the European Society of Intensive Care Medicine (ESICM), preferably from different disciplines, should attend the meetings and give their advice.
- One delegate from the European Society of Paediatric and Neonatal Intensive Care (ESPNIC) is similarly included.
- All decisions of the MJCICM have to be approved by the different sections whose representatives are members of the Committee. The Standing Advisory Board does not have voting capacity in the UEMS.

Statements and recommendations of the Multidisciplinary Joint Committee of Intensive Care Medicine (MJCICM)

Since its formation, the MJCICM have implemented the following statements and recommendations, approved by the board of directors of the UEMS.

Definition of intensive care medicine

Intensive care medicine combines physicians, nurses and allied health professionals in the co-ordinated and collaborative management of patients with life-threatening single or multiple organ system failure, including stabilisation after severe surgical interventions. It is a continuous (i.e. 24 h) management including monitoring, diagnostics, support of failing vital functions as well as the treatment of the underlying diseases.

Structural conditions for education and training in intensive care medicine

Special competence in intensive care medicine can be acquired by physicians who already have their certification in an appropriate primary speciality such as anaesthesiology, internal medicine, paediatrics, pneumology, surgery etc. During two additional years of full-time education and training in intensive care medicine a catalogue of special knowledge and skills must be fulfilled which would make up a "core curriculum", as detailed in Table 1. Six to twelve months of the training period for the primary speciality can be accepted as part of the intensive care medicine special competence education if the educational catalogue for the primary specialisation includes such a period of full-time training in basic knowledge in intensive care medicine.

Continuing medical education

Continuing medical education will be established according to the UEMS recommendations and guidelines (D 9907 and D 9908) and will be adapted to the guidelines of National and Professional Bodies involved in intensive care medicine.

Criteria for accreditation of intensive care training centres

A specialist who is authorised to provide post-specialist training in intensive care must head the ICU. Normally national authorities give authorisation. Patient care should be provided continuously over a 24h period, by staff members (physicians) who have obtained special competence in intensive care medicine and residents-in-training of the various departments which are involved in intensive care. The training unit has to be equipped with a minimum of six beds, 40% of the intensive care days should be occupied with patients receiving vital organ support (unless national requirements exceed these guidelines). The ICU must be designed to offer the trainee sufficient practice to meet the requirements of the speciality-specific training log-book outlined in the basic catalogue of the MJCICM. The hospital or the affiliated hospital group should provide consultant service in the areas indicated in Table 2. It is expected that these services will usually be available at the same hospital site or closely adjacent.

Intensive Care Units Accreditation Visiting Programme (ICUAVP)

The MJCICM has started to harmonise intensive care medicine in Europe by applying an international accreditation-visiting programme. This allows individual units and their national bodies to evaluate their programme against European standards. However, nationally competent authorities are responsible for these standards whilst the MJCICM establishes guidelines for harmonisation.

Based on the *UEMS Charter on Visitation of Training Centres* (UEMS, 24th October, 1997) the MJCICM presents the following recommendations for an ICUAVP. This has been developed in close cooperation with the ESICM and the ESPNIC. ESICM (and ESPNIC in the case of a paediatric ICU) will carry out the organisation on behalf of the MJCICM.

The ICUAVP is offered on a voluntary basis to academic or teaching hospitals with ICUs, which may apply for European recognition of quality of teaching and training in intensive care medicine (= accreditation). If a national accreditation programme exists, an accredited unit will be considered for visitation only for the purposes of harmonisation.

The MJCICM will decide, according to the replies to the questionnaire, whether the visit is justified. MJCICM and ESICM/ESPNIC will form a visitation team, which will always include a national representative.

The ESICM or ESPNIC offices handle the initial request for an ICU accreditation visit. The head of a department or the chairman of an ICU sends an application to the office of ESICM and/or ESPNIC. The ESICM/ESPNIC office sends a questionnaire, related to the structure of the hospital, the constitution of the staff and the organisation of training and teaching, to the applicant. In this questionnaire the applicant has to declare whether or not the national authorities have approved the department as a centre for training and education. If a national body does not exist, the MJCICM will evaluate

Table 1 The common core curriculum for optional specialist training in intensive care medicine[1] This recommendation represents the basic requirements for qualification as a physician in adult and paediatric intensive care medicine and is independent of speciality-related requirements

1. Special knowledge and practical experiences

1.1 Special knowledge and practical experiences in the areas of monitoring and measurement as well as the practice of intensive care medicine

1.2 Special knowledge and practical experiences in cardio-pulmonary-cerebral resuscitation
- Acute phase of resuscitation
- Management: monitoring and treatment of secondary injuries

2. Special knowledge and practical experiences in pathology, pathophysiology, diagnosis and treatment of functional disorders of vital organ systems

2.1 Body systems

2.1.1 Cardiovascular system
- Acute and chronic heart failure, coronary insufficiency, dysrhythmia
- Acute hypertension

2.1.2 Respiratory system
- Acute respiratory failure
- Aspiration and secondary damages
- Sequelae of hypoxia and hypo/hypercapnia
- Barotrauma
- Mechanical ventilation and monitoring thereof
- Pressure and volume controlled ventilation (IPPV, CPPV, IMV, PEEP, CPAP)
- Indications, adjustments, complications, weaning

2.1.3 Central nervous system and peripheral nervous system
- Disturbance of consciousness, coma grading, brain death syndrome
- Increase in intracranial pressure
- Acute cerebrovascular disorders, including haemorrhage
- Acute transverse lesion syndromes
- Acute mental reactions
- Seizures

2.1.4 Renal function
- Acute renal failure

2.1.5 Fluid, electrolyte and acid base balance

2.1.6 Metabolism
- Acute metabolic disturbances
- Acute endocrinopathies
- Post-traumatic metabolism
- Nutritional problems

2.1.7 Haematology
- Acute coagulation disorders
- Transfusion of blood and blood components
- Sequelae of immunosuppression
- Anticoagulation, thrombolysis, fibrinolysis

2.2 Acute life-threatening clinical pictures and damages (main emphasis dependent upon base speciality requirements)
Shock and organ failure: different shock types, multiple organ failure
- Thoracic emergencies, e.g. pneumo/haemothorax, pulmonary embolism
- Acute myocardial infarction
- Acute abdomen
- Ileus
- Internal haemorrhage
- Anaphylactic reaction
- Intoxications
- Trauma (brain trauma, abdominal trauma, polytrauma)
- Hypothermia
- Aortic dissection
- Bleeding and perforations
- Peritonitis

2.3 Infections
- Aerobic and anaerobic infections
- Viral and mycotic infections
- Nosocomial infections
- Sepsis

Table 1 (continued)

3. Special knowledge, experience and skills in the use of techniques associated with intensive care medicine

3.1 Measurement and monitoring techniques, including imaging techniques
3.2 Mechanical ventilation and associated complications
3.3 Further measures
- Oro/nasotracheal intubation
- Enteral and parenteral nutrition
- Infusion, blood transfusion and blood component substitution
- Haemodialysis, haemofiltration, transperitoneal dialysis, plasmapheresis
- Gastrointestinal tubes
- Urinary catheter
- Arterial and venous catheters, including pulmonary catheter
- Analogue sedation
- Laboratory techniques, including blood gas analysis
- Bronchoscopy (except in paediatrics)
- Puncture and drainage of pleural cavity
- Defibrillation/electrostimulation of the heart
- Mechanical assist devices
- Transport of critically ill patients

4. Knowledge of indications for temporary organ replacement

5. Knowledge of intensive care measures

6. Special knowledge of aspects of hospital hygiene, business management, organisational as well as of legal and ethical aspects of intensive care medicine

[1] From the Recommendations on Problems in Emergency and Intensive Care Medicine edited by A. Karimi and W. Dick in October 1999, pp 63–65, by the DIVI (German Interdisciplinary Association of Critical Care Medicine) which were endorsed by the UEMS MJCICM in 2000

Table 2 Areas in which the hospital must be able to provide consultant service for accreditation of intensive care training centres

Internal Medicine, Cardiology, Nephrology, Pneumology
Surgery, including Cardiothoracic Surgery
Anaesthesiology
Neurology
Neurosurgery
Obstetrics
Paediatrics/Neonatology (provided children or newborns are treated)
Laboratory
Radiology
Blood Bank
Physiotherapy
Pathology
Clinical Microbiology
Paediatric Surgery (provided children are treated)

and consider a visit providing minimal required standards have been met.

The visiting team

The visiting team will be designated by the MJCICM in cooperation with ESICM/ESPNIC. The team will be multidisciplinary and is composed of three representatives:

- One MJCICM committee member from the UEMS sections,
- One ESICM and/or ESPNIC member, possibly a member of the permanent MJCICM advisory board,
- One representative of the national body representing intensive care medicine, not working in that hospital.

A local trainee representative may be included as observer.

The chairman and the secretary of the visiting team will be appointed by the MJCICM. If the chairman is an MJCICM member from the UEMS sections, the secretary will be from ESICM/ESPNIC, or conversely. The representative from the national body cannot be appointed as chairman or secretary. The chairman will select the date for the visit in agreement with the head of the training centre. The chairman manages the visit and leads the discussions. The secretary writes the report. The national representative may act as simultaneous translator and facilitates the contacts with the staff members and the residents.

The intensive care unit accreditation visit

The visit consists of a presentation of the staff, explanations of the organisation of the hospital, the department and the ICU and the structure of training. It will be performed according to the *UEMS Charter on Visitation of Training Centres* (see Art. 5). A discussion with the staff members involved in the teaching and training process is followed by an interview of residents of various levels of training, without the presence of teachers. A visit to the hospital, the department and the ICU is performed with special interest in teaching facilities (offices, library, access to Internet and databases etc.). A debriefing with the chairman is organi-

sed at the end of the visit. First conclusions are discussed. A meeting with the hospital management and/or dean of the medical school is desirable when possible.

The report of the visit

A provisional report without mentioning conclusions and recommendations will be sent to the chairman of the department involved, allowing comments if necessary.

The report will be presented in the meetings of the MJCICM and the executive committee of ESICM (or ESPNIC in the case of a visit to a paediatric ICU). The report is confidential and cannot be discussed outside the committees. After approval by both committees the final report is sent to the chairman of the hospital visited with eventual additional comments from MJCICM and/or ESICM/ESPNIC. The relevant sections of the MJCICM will be informed about these activities.

The final report (see *UEMS Charter on Visitation of Training Centres*, Art. 7) is sent to the president of the MJCICM as well as to the president of ESICM/ESPNIC.

The certification

The department and the ICU which has been visited and accredited by the MJCICM will receive a certificate indicating that the latter fulfils the criteria that meet European standards of excellence.

The department and the ICU are declared as an approved European centre for training and education of intensive care medicine for a maximum period of 5 years. If, at the date of the visit, the MJCICM considers that alterations are necessary before a full accreditation is possible, it may provide a 2year provisional certificate, which may be endorsed for a full 5year period from the date of the visit if the recommended changes or augmentations have been made. The certificate indicates the names and the titles of the visitors, the date and the validity of the registration. The certificate is signed by the president of the MJCICM and by the president of ESICM/ESPNIC.

Confidentiality

The members of the visiting team and the UEMS and ESICM/ESPNIC committees involved are obliged to preserve the confidentiality of the contents of the visitation report.

The costs of the visit

In countries of the European Union and EFTA the costs of the visit are carried by the department visited (costs for travel and accommodation – no fee).

Criteria of assessment

The main criteria of assessment are:

- A curriculum for education and training in intensive care medicine according to the national regulations and the recommendations of the ESICM [5, 6, 7] – these are endorsed by the MJCICM.
- Clear commitment to the theoretical and practical instruction of trainees, within the full range of clinical opportunities available.
- Attitude to training and teaching which is accepted by both trainees and teachers within the institution. Mechanisms should be placed for continuous assessment of progress by trainees throughout their training period (formative assessment). This is additional to any external examination or internal set examination at fixed points within the training programme (summative assessment).
- The ratio of trainers (fully trained staff doctors or similar) to trainees must be sufficient to allow training to proceed without difficulty. The quality of the training staff involves: level of education, involvement in research programmes, publications etc.
- Proportion of time devoted to training in each week and its division among the different multidisciplinary topics relevant in intensive care medicine.
- Facilities within the department or the hospital in terms of space, libraries and other aids to teaching and training (access to Internet, MedLine, CD-ROM with teaching programmes etc.) adequate to meet the needs of the programme.
- Possibilities to attend educational courses, scientific meetings, to learn and practice foreign languages, to travel abroad etc.
- Research advice and facilities, possibilities of grants and scholarship, publication record, access to add-on diploma, such as the ESICM European Diploma in Intensive Care Medicine.
- According to the *UEMS Charter on Visitation of Training Centres* it is recommended that the different stages of training and the activities of the trainee be recorded in a logbook.
- Initial professional training and continuing medical education (CME) should be linked together.
- Standards of medical treatment and nursing care: the MJCICM endorses national standards of treatment and care if they exist; otherwise, the guidelines of the ESICM apply. The intention is to achieve harmonisation of standards of treatment and care.

Appendix

Actual representatives of the different UEMS sections in the Multidisciplinary Joint Committee of Intensive Care Medicine

Section	Name
President	Prof. Dr. S. De Lange The Netherlands
General secretary	Prof. Dr. H. Van Aken, Germany
Section Anaesthesiology, Reanimation and Intensive Care	Dr. W.P. Blunnie, Ireland Dr. H. Ording, Denmark
Section Surgery	Mr. A. MacGregor, Scotland Prof. D.J. Witte, Germany
Section Paediatrics	Prof. J. Ramet, Belgium Dr. Maurice Beghetti, Switzerland
Section Internal Medicine	Dr. Faustino Ferreira, Portugal Dr. P.G.M. Bouloux, United Kingdom Prof. D.R. Hillen Dr. J. Tjen, The Netherlands
Section Neurosurgery	Prof. Brock, Germany
Section Pneumology	Prof. K. Prowse, United Kingdom
Section Obstetrics	Prof. A. Van Assche, Belgium
UEMS Cardiology Section	Dr. Joao Morais, Portugal
Ex Officio	
European Society of Intensive Care Medicine (ESICM)	Prof. H. Burchardi, Germany Prof. Dr. Jukka Takala, Switzerland Prof. G. Ramsay, The Netherlands
European Society of Paediatrics and Neonatal Intensive Care (ESPNIC)	Dr. J. Ramet, Belgium

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