Training Requirements for the Additional Competence of
“Manual Medicine” for European Medical Specialists

European Standards of Postgraduate Medical Training

Preamble

The UEMS is a non-governmental organisation representing national associations of medical specialists at the European Level. With a current membership of 34 national associations and operating through 39 Specialist Sections and European Boards, the UEMS is committed to promote the free movement of medical specialists across Europe while ensuring the highest level of training that will pave the way to the improvement of quality of care for the benefit of all European citizens. The UEMS areas of expertise notably encompass Continuing Medical Education, Post Graduate Training and Quality Assurance.

It is the UEMS' conviction that the quality of medical care and expertise is directly linked to the quality of training provided to the medical professionals. Therefore, the UEMS committed itself to contribute to the improvement of medical training at the European level through the development of European Standards in the different medical disciplines. No matter where doctors are trained, they should have at least the same core competencies.

In 1994, the UEMS adopted its Charter on Post Graduate Training aiming at providing the recommendations at the European level for good medical training. Made up of six chapters, this Charter set the basis for the European approach in the field of Post Graduate Training. With five chapters being common to all specialties, this Charter provided a sixth chapter, known as “Chapter 6”, now substituted by the European Requirements, which each Specialist Section was to complete according to the specific needs of their discipline. Regarding Manual Medicine (MM), it is neither a speciality nor a sub-speciality, but consist of additional competence that can be provided by many existing EU specialists (orthopaedic and trauma surgeons, PRM physicians, neurologists, ENT-specialists, rheumatologists and others that are related to the locomotor system). Manual medicine is a typical multidisciplinary competence. The regulations of the Bologna process define this additional competence as a “Diplomate of Advanced Studies” (DAS) according to a minimum of 30 ECTS in postgraduate Education and Training.
More than a decade after the introduction of this Charter, the UEMS Specialist Sections, European Boards, and Multidisciplinary Committees (MJC) have continued working on developing these European Standards in Medical training that reflects modern medical practice and current scientific findings. In doing so, the UEMS Specialist Sections, European Boards and MJC did not aimed to supersede the National Authorities’ competence in defining the content of postgraduate training in their own State but rather to complement these and ensure that high quality training is provided across Europe.

At the European level, the European Union established the legal mechanism ensuring the free movement of doctors through the recognition of their qualifications back in the 1970s. Sectorial Directives were adopted and one Directive addressed specifically the issue of medical Training at the European level. However, in 2005, the European Commission proposed to the European Parliament and Council to have a unique legal framework for the recognition of the Professional Qualifications to facilitate and improve the mobility of all workers throughout Europe. This Directive 2005/36/EC established the mechanism of automatic mutual recognition of qualifications for medical doctors according to training requirements within all Member States; this is based on the length of training in the Specialty and the title of qualification.

Given the long-standing experience of UEMS Specialist Sections and European Boards on the one hand and the European legal framework enabling Medical Specialists and Trainees to move from one country to another on the other hand, the UEMS is uniquely in position to provide specialty-based recommendations. The UEMS values professional competence as “the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served”¹. While national law in EU Member States regulates professional activity, it is the UEMS understanding that it has to comply with International treaties and UN declarations on Human Rights as well as the WMA International Code of Medical Ethics.

This document provides definitions of specialist competencies and procedures as well as how to document and assess them. For the sake of transparency and coherence, it is named as “Training Requirements for the additional competence in Manual Medicine for an EU Specialist”. This document aims to provide the basic Training Requirements for this additional MM-competence. The UEMS MJC ‘Manual Medicine’ will regularly update it to reflect scientific and medical progress. The three-part structure of this documents reflects the UEMS approach to have a coherent pragmatic document not only for medical specialists but also for decision-makers at the

National and European level interested in knowing more about medical specialist and additional competence training.

The International physicians Federation for Manual and Musculoskeletal Medicine (FIMM) in 2005 agreed on the following definition of Manual Medicine (MM):

“Manual (and Musculoskeletal) Medicine is the medical discipline of enhanced knowledge and skills in the diagnosis, therapy and prevention of functional reversible disorders of the locomotor system. Diagnostic skills build on conventional medical techniques with manual assessment of individual tissues and functional assessment of the whole system, based on scientific biomechanical and neurophysiologic principles. Therapeutic skills add manual/manipulative techniques and advanced interventional techniques to conventional treatments for the reduction of pain or other therapeutic outcome. Patient involvement in the therapeutic activity, resulting from the detailed diagnosis, helps in the prevention of recurrence.

Manual Medicine completes and complements the syllabus of both undergraduate and postgraduate education & training of physicians.” (www.fimm-online.com)

In this context, the etymological meaning of “medicine” in most countries refers exclusively to physicians / surgeons. Therefore, Manual Medicine in Europe – as far as it concerns the UEMS – is exclusively restricted to physicians and surgeons with an additional competence for a European Specialist according to the regulations of the UEMS. The use of the term “Manual Medicine” is illegal in all European countries for lay-osteopaths and chiropractors, as well as for US-DOs as long as they do not have specific accreditation of the governmental authorities as registered physicians according to the respective national law.

Diagnostics in manual medicine is based on EU specialist’s skills in biomechanics, anatomy, physiology, neurology, and psychosocial analysis. Specialists usually provide MM in the ambulatory care setting. The history, examination findings, and investigations are all considered in order to generate a working diagnosis. The EU specialist with additional MM competence then discusses and decides with the patient the therapeutic regime, which includes pharmacological prescription and/or manual therapy as well as rehabilitation prescription and advice. The EU specialist with additional MM competence therefore represents an appropriately trained EU specialist with a broad skill set otherwise only available through a multidisciplinary approach.

As dysfunction in the locomotor system most commonly includes pain, there is a perfect indication for manual medicine as an early intervention, thus avoiding the long and sometimes endless path of chronic pain and invalidity.

In the EU, regulations for specialists who practice MM vary considerably from country to country. Many European countries legally recognize MM as an additional competence for EU specialists (“DAS” according to the Bologna process for postgraduate education and training). This may
include examination, registration and licensing by the government, a university or a Chamber of physicians. These countries did regulate the profession, and the stipulated educational qualifications are generally consistent, satisfying the requirements of the respectively accrediting bodies. However, some European countries have not yet recognized formally or practiced manual medicine. These countries have not yet developed MM-education or established laws to regulate qualified practice of Manual Medicine.

The UEMS-MJC Manual Medicine (together with the ESSOMM – European Scientific Society for Manual Medicine) has delineated what the MJC believes to be the minimum educational requirements EU specialists need to achieve an additional competence in order to provide MM safely.

There is no intention to repeat in additional training integral parts of the respective specialities. However, the theoretical background for manual diagnostics of non-structural, reversible disorders of the locomotor system is not an integral part of specialities like general or orthopaedic surgeons, neurosurgeons, neurologists, maxillofacial surgeons and any other speciality in relation to the locomotor system, but also for internal medicine specialists. In addition, European Specialists that want to use MM need to know special diagnostic skills to differentiate conditions that they can treat by hand from conditions, where MM is contraindicated. This background is the result of translational basic research, which is of course interdisciplinary, but additional to the respective postgraduate speciality training.

As for the manual techniques, competent specialists will apply them in the manual therapeutic treatment of the joints of the spine and the extremities as well as the soft tissues (muscle, tendon, and fascia). These techniques – mainly mobilisations or manipulations (high-velocity-low-amplitude, i.e. one single, fast movement of one partner of a joint in relation to its neighbour in a painfree, unrestricted direction) – is not an integral part of any of the abovementioned specialities’ training. Therefore, the European Specialist according to the UEMS standards has to learn these manual, therapeutic procedures in a specific workshop setting under close and strict control of a specific manual trainer, which is capable to explain, demonstrate and supervise – also stop and correct – the trainee during his attempts to apply these techniques to another, non-patient subject (usually a colleague). Having successfully learned all the necessary techniques of MM, any specialist, i.e. any member of a discipline in relation to patients, can use MM in his professional approach, be it just for diagnostics, be it also for therapeutic treatment. Therefore, MM is an interdisciplinary competence. It is not an integral part of the respective speciality training. It is an additional competence.
I. TRAINING REQUIREMENTS FOR TRAINEES

1. Content of training and learning outcome

Competencies required of the trainee

Before entering training of Manual Medicine (MM), the trainee should be, as a qualified physician, in a training program for an EU specialty or have accomplished a specialty training of a recognized EU medical specialty. MM would be an additional competence, and that requires successful accomplishment of a training in a specialty recognized in the EU and the MM curriculum. MM trainees would typically be specialists or trainees in orthopaedic surgery, neurology, rheumatology, physical and rehabilitation medicine, and all other specialties related to the locomotor system.

The underlying principle as regards this document is that it promotes high standards of care for patient’s conditions related to Manual Medicine throughout the European Union and sets the basic requirements in the domains listed above to enable specialists/consultants with additional MM competence to move across European country borders for professional purposes.

Patients conditions related to MM concern especially reversible (i.e. non-structural) painful dysfunctions of intervertebral and peripheral joints as well as of the related soft tissues (i.e. muscle, fascia, and tendon). More precisely, besides many more the following conditions are included:

- So-called non-specific acute and chronic low back pain, including dysfunction of the lumbar spine as well as of the pelvic girdle (i.e. sacroiliac joints and symphysis), see: German National Guidelines for Low Back Pain.
- Chronic pain disease with vertebral components based also on dysfunction
- Acute and chronic disorders and degenerative disease of the cervical spine
- Cervicogenic headache, cervicogenic dizziness, cervicogenic tinnitus
• Dysfunctional thoracic spine disorders, including autonomous reactions of heart, lung and abdominal viscera
• Painful posttraumatic and degenerative disorders of peripheral joints with dysfunctional components

a. Schedule of the Training (Introduction and General Regulations)

As MM is an interdisciplinary additional competence, it is also recommended that training in Manual Medicine should initiate after (or at least be affiliated with) a training in an official postgraduate specialty recognized in the EU. Before the trainee may become competent to practice the Manual Medicine additional competence (neither a speciality nor a sub-speciality), it is obligatory to finalize this specialty training. Details of these specialties are not part of the training requirements for the core MM training.

Training in MM according to the UEMS European Training Requirements includes participation in courses, times of self-studies and meetings in small groups for practical exercises.

According to the Bologna process, basic education and training in MM corresponds to the postgraduate “Diplomate of Advanced Studies” that includes 30 ECTS. Such thirty ECTS correspond to six-month full time university studies (for undergraduates). As the agreed 300 hours of theoretical lectures and practical exercises in supervised workshops do not fulfil the requirements of 30 ECTS, there is need of additional 600 – 750 hours of documented self-studies and practical revisions of the diagnostic and therapeutic procedures in small groups of at least three colleagues. In these small groups, one colleague will then mimic the patient, another one is exercising as the therapeutic physician and the third one checks the instructions, giving necessary supervision and comments. Then they will change and repeat the exercise. These repetitive meetings may happen in a clinic or an ambulance of one of the trainees, where there is an appropriate table for the practical exercises.

Providers of the full education and training should present the program in eight defined modules of contact courses of at least 50 hours each. For the sake of the self-studies and the practical exercises, these modules have to be at least three months apart. Such a module will represent a unit that all ESSOMM registered providers will recognise between each other. Nevertheless, a provider can offer such a module in several sub-modules that are only one to two weeks apart. The provider will then give a certificate to the participant indicating the end of the complete module and the result (“successfully” or “unsuccessfully”). The sequence of the courses is obligatory in the way that the trainee has to attend the two basic modules (100 hours, corresponding to the Bologna “Certificate of Advanced Studies” of 10 ECTS) before the four
advanced modules. The sequence of the following three advanced modules can be free. However, the last module with the final exam must obviously remain always at the end of the Training.

The emphasis is focused on the teaching of practical competencies, skills and knowledge. The theoretical course units can be integrated into the practical instruction.

100 lection hours of the basic courses (equivalent to 10 ECTS) shall contain:
- 30 hours theory
- 70 hours practical experience

200 lection hours of the advanced courses (equivalent to 20 ECTS) shall contain:
- 40 hours theory
- 160 hours practical experience.

Between the six modules there, has to be a time gap of minimum three months for the respective self-studies, revisions and practical exercises in small groups of three or more trainees. As a module of 50 hours will usually consume at least one week, the 15 months of intervals and the 6 weeks of the modules make it impossible to finalise the training in less than 16.5 months. However, this is in fact not realistic, as there will be never the possibility to get the precise dates of the modules exactly after the three-month gap. Usually, as we observe it since many years, the time for the complete education and training will consume 18 to 24 months.

For the governance of the quality of the education and training, from the first module onwards the provider has to check at the end of all modules by a questionnaire and by practical test-demonstrations whether the trainee has followed successfully the contents of the respective module. From the beginning of the second module, the provider will check in any following module, whether the trainee has fulfilled the task of self-studies and practical exercises sufficiently by starting that module with an entrance exam.

The final exam will content a theoretical and a practical part. For the theoretical part, the trainee has to answer a questionnaire with at least 80% correct answers. In addition, he will have to answer in a verbal discussion questions from the two examiners. In the practical exam, the trainee has to proof his capacity for specific history taking, manual diagnostic, information to the patient with discussion of options, and – if indicated – the manual therapy (towards a real or an actor-patient) in front of two examiners, explaining also the indication and contraindication for a manual approach in that specific case.
b. Main emphasis of the course’s contents

Levels of competence in knowledge ("cognition"): “K”
1. Basic knowledge
2. Reproducible knowledge
3. Applied knowledge in relation to MM
4. Active teaching MM knowledge

Levels of competence in skills: “S”
1. Functional tests, palpation
2. Applying manual medicine techniques under supervision
3. Applying manual medicine techniques without supervision
4. Active teaching MM skills

Levels of competence in attitude: “A”
1. History taking
2. Inform about therapeutic options/contraindications
3. Patient education

1. Basic knowledge
Our knowledge is an ongoing process, requiring constant effort, vigilance and updating. Anatomy, biomechanics, physiology and pathophysiology as basics in MM are oriented towards the actual status of developing science. ESSOMM and the UEMS MJC MM gather and discuss new evidence results and knowledge and make them regularly available. The exact theoretical content of the curriculum is not included in this syllabus.

1.1. Essential knowledge

<table>
<thead>
<tr>
<th>Subject</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>functional anatomy and biomechanics of the locomotor system</td>
<td>K 3</td>
</tr>
<tr>
<td>physiology and pathophysiology of the locomotor system</td>
<td>K 2</td>
</tr>
<tr>
<td>functional analysis of the locomotor system</td>
<td>K 3</td>
</tr>
<tr>
<td>principles of MM and major postulated mechanisms of action</td>
<td>K 3</td>
</tr>
<tr>
<td>anatomy, physiology and pathophysiology of the nervous system in relation to pain and</td>
<td>K 2</td>
</tr>
</tbody>
</table>
dysfunction

function and interlinked function (chain-reactions) as well as the dysfunction within and between the organs of the locomotor system (spine, extremity joints, muscles, ligaments, fascia)

primary and secondary somatic dysfunctions, simple and complex dysfunctions in the locomotor system

specific postulated mechanisms of diagnostic and therapeutic techniques

clinical syndromes and differential diagnostics of the locomotor system

relevant ancillary diagnostics (e.g. laboratory, imaging, electro diagnostics) to MM

risks and benefits of other relevant therapeutic modalities compared to or in conjunction with MM

indications and contraindications for different therapeutic options

1.2. Essential skills

informing the patient adequately about their condition in order to obtain informed consent

effectively inform the patient about anticipated benefits and outcomes, potential risks and complications of MM treatments

to conduct effective history taking

to conduct physical examination

to perform effective, accurate palpatory diagnostics

competence to deliver safe, effective MM treatment in a general population

competence to deliver safe, effective MM treatment in complex morbidity or special musculoskeletal complaints

2. Anatomy objectives
### 2.1. General anatomy objectives

<table>
<thead>
<tr>
<th>Objective</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>to comprehend and to describe the normal functions of the muscles and joints of the axial and appendicular skeleton, and the function of the nervous system</td>
<td>K 2</td>
</tr>
<tr>
<td>to understand the anatomical basis of techniques used to investigate and manage complaints of the locomotor system</td>
<td>K 3</td>
</tr>
</tbody>
</table>

### 2.2. Specific anatomy objectives

<table>
<thead>
<tr>
<th>Objective</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>to describe macrostructure, anatomical relations and surface anatomy of the elements of the locomotor system</td>
<td>K 2</td>
</tr>
<tr>
<td>to describe the course and relation of the peripheral arteries (especially the vertebral arteries) and the effects on these vessels of movements of the associated skeletal structures</td>
<td>K 1</td>
</tr>
<tr>
<td>to describe and demonstrate the course and distribution of the peripheral and autonomic nerves</td>
<td>K 2</td>
</tr>
<tr>
<td>to explain the motor and sensory mechanisms involved in movements and musculoskeletal complaints</td>
<td>K 2</td>
</tr>
<tr>
<td>to recognize anatomical variants in neural and musculoskeletal structures</td>
<td>K 1</td>
</tr>
</tbody>
</table>

### 3. Physiology objectives

#### 3.1. General physiology objectives

<table>
<thead>
<tr>
<th>Objective</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>to understand the physiological basis of the functions and disorders of the locomotor system</td>
<td>4. K 5. 1</td>
</tr>
</tbody>
</table>

#### 3.2. Specific physiology objectives
### to describe different types of muscular fibres

| K | 1 |

### to describe muscle adaptability

| K | 1 |

### to describe the effects of rest, exercise and ageing on skeletal muscle, in terms of histochemistry and molecular structure

| K | 1 |

### to describe the neurophysiology, activity and function of reflexes involving the locomotor system including somatovisceral, viscerosomatic, and somato-somatic relationships

| K | 1 |

### to describe the basic metabolic principles and physiology of bone, muscle, connective tissue and nerves pertaining to the locomotor system

| K | 1 |

### to describe the molecular and cellular processes implicated in mechanisms of muscle contraction

| K | 1 |

### to describe the molecular and cellular processes involved in the generation and propagation of action potentials in nerve, muscles, and excitatory and inhibitory synapses

| K | 1 |

### to describe the effects of rest, exercise and ageing on fascia, in terms of histochemistry and molecular structure

| K | 1 |

### to describe the motor and sensory neurophysiological mechanisms to explain the symptoms of disorders of the locomotor system

| K | 2 |

---

### 4. Biomechanics objectives

#### 4.1. General biomechanics objectives

- to understand certain precepts of biomechanics and apply them to the locomotor system
  
  | K | 2 |

- to recognize and describe the aberrations of function of the locomotor system
  
  | K | 2 |

#### 4.2. Specific biomechanics objectives

- to define, in biomechanical terms, the following terms as they are applied to joints: hypomobility, hypermobility, and instability
  
  | K | 3 |
to describe biomechanical differences between somatic dysfunction and capsular patterns | K 3

to demonstrate an ability to apply and interpret the following terms with respect to any of the tissues of the locomotor system: stress, strain, stiffness | K 3

to describe the movement of any joint in terms of translation and rotation about biomechanical axes | K 3

5. Pain objectives

5.1. General pain objectives

to understand the physiology of pain and the pathophysiological and bio-psycho-social implications of pain | K 2

to understand the somatic and visceral structures which contain receptors capable of creating pain | K 3

to understand the relationship between pain and function, i.e. pain as consequence and as cause of dysfunction | K 2

5.2. Specific pain objectives

to describe, at an appropriate level, the classification of pain | K 2

to differentiate acute and chronic pain and their proposed mechanisms | K 2

to describe the anatomy, physiology, pathophysiology, and currently understood mechanisms of pain | K 2

to describe the understood patterns of referred pain to and from the locomotor system | K 2

to describe the relationship between psychosocial factors and chronic pain | K 2

to describe the role of the autonomic nervous system in relation to pain | K 2

6. Diagnostic examination
6.1. Conventional medical examination

<table>
<thead>
<tr>
<th>Activity</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>to perform a conventional medical examination to understand the condition of the patient with respect to indications, contraindications and therapeutic options</td>
<td>3</td>
</tr>
<tr>
<td>to perform history taking and examination with emphasis on orthopaedic, neurological, occupational bio-psycho-social factors</td>
<td>3</td>
</tr>
<tr>
<td>to perform systemic and ancillary tests where indicated</td>
<td>3</td>
</tr>
<tr>
<td>to prioritize diagnostic tests based on sensitivity and specificity</td>
<td>3</td>
</tr>
</tbody>
</table>

6.2. Examination using MM techniques

<table>
<thead>
<tr>
<th>Activity</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>to perform examination to identify normal locomotor functions and their disturbance</td>
<td>3</td>
</tr>
<tr>
<td>to perform manual techniques for the diagnosis of the locomotor system and other tissues involved in the patient’s pathology:</td>
<td>3</td>
</tr>
<tr>
<td>- examination of muscular tension</td>
<td></td>
</tr>
<tr>
<td>- evaluation of the connective tissue tension</td>
<td></td>
</tr>
<tr>
<td>- evaluation of visceral-vertebral chain reaction</td>
<td></td>
</tr>
<tr>
<td>to follow a holistic approach in the framework of medical diagnostic methods</td>
<td>3</td>
</tr>
<tr>
<td>to perform screening examination to identify if there is a problem in the locomotor system that deserves additional evaluation</td>
<td>3</td>
</tr>
<tr>
<td>to perform a complete examination from a global orientation through a regional orientation to a locally concentrated, specialised manual examination</td>
<td>3</td>
</tr>
<tr>
<td>to perform a scanning examination to identify which regions and tissues within the region are dysfunctional and of relevance at a level appropriate to the treatment skills</td>
<td>3</td>
</tr>
<tr>
<td>to conduct regional palpatory examinations of the tissues of the locomotor system to identify dysfunctions</td>
<td>3</td>
</tr>
<tr>
<td>to perform manual and functional diagnostics of the locomotor system with special consideration of pain reactive signs</td>
<td>3</td>
</tr>
</tbody>
</table>
### 6.3. Recording diagnostic findings

- to record the patient evaluation and patient progress by using various methods of measurement, e.g. visual analogue scale (VAS), dolorimeter, impairment scales, general health scales
- to record relevant specific findings in terms of MM
- to maintain quality management

### 7. Treatment modalities

#### 7.1. General treatment

- to perform manual techniques for the treatment of the locomotor system and other tissues involved in the patient’s pathology such as:
  - Positioning techniques
  - Exercises for stabilization, muscle strain and muscle training
- to perform mobilisation techniques including specific techniques for muscle inhibition or muscle relaxation (techniques based on post isometric relaxation and on reciprocal inhibition, and positioning techniques)
- to perform segmental manipulation techniques of the spine and manipulation techniques of the peripheral joints
- to supervise physiotherapy of the locomotor system and training for rehabilitation
- to perform myofascial and related soft tissue techniques
- to perform trigger-point-therapy
to apply treatment strategies for interlinked functional (chain-reaction) syndromes | S 3
---|---
to integrate the principles of treatment of manual medicine into multimodal treatment concepts | K 3

7.2. Disease prevention and health promotion

to use all treatment modalities to prevent recurrence of presenting problems | A 3

to recommend exercise and sound ergonomic behaviour for rehabilitation and prevention | A 3

to instruct in self exercises | A 3

8. Clinical pictures
8.1. Clinical pictures in MM

to know and identify disorders or dysfunctions of axial and appendicular structures:
- Cranium
- cranio-cervical junction
- cervical spine
- cervico-thoracic junction
- thoracic spine
- thoraco-lumbar junction
- lumbar spine
- lumbar-sacral junction
- sacroiliac joints, pelvic girdle
- peripheral joints | K 3

to know and identify viscera-somatic, somato-visceral, psycho-somatic and somato-somatic reflexes | K 3

to incorporate MM disorders or dysfunctions into rehabilitative concepts, including the ICF | K 2
model

to know and identify the disorders and dysfunctions with the appropriate ICD code

| K | 3 |

8.2. Diseases, disorders and conditions

to understand the differential diagnosis, relevance and interrelationship to MM of the following conditions:
- general neurological semiology (signs and symptoms)
- neurological disorders
- non cervicogenic headache
- orthopaedic disorders
- rheumatologic disorders
- spinal affections
- vascular abnormalities
- paediatric disorders
- trauma of the spine
- tumours of the spine

to understand special consideration with respect to gender, age and development (esp. paediatrics and geriatrics)

| K | 3 |

Distribution of the contents of the course
(The term ’hour’ is designating a training unit of 45-50 minutes.)

**Basic course** (10 ECTS, 100 lection hours):

*Acquisition of basic knowledge and basic skills (30 lection hours)*

<table>
<thead>
<tr>
<th>Theoretical principles of the</th>
<th>7 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functionality, neuronal control and functional pathology of the locomotor system</td>
<td></td>
</tr>
<tr>
<td>Vertebro-visceral interactions</td>
<td></td>
</tr>
</tbody>
</table>
• Nociception, pain and nocireaction
• Biomechanical principles of the locomotor system as well as of dysfunction of the locomotor system
• general effects of the different manual medicine techniques, also regarding vertebro-visceral and viscero-vertebral interactions and functional chain-reactions

<table>
<thead>
<tr>
<th>Topic</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional anatomy of the peripheral joints, the spine and the joints of the head</td>
<td>5 hours</td>
</tr>
<tr>
<td>Structure of fascia, physiological and neurophysiological features of the connective tissue</td>
<td>5 hours</td>
</tr>
<tr>
<td>Fundamental knowledge of imaging diagnostics and lab findings in special consideration of Manual Medicine</td>
<td>5 hours</td>
</tr>
<tr>
<td>Pain in the locomotor system</td>
<td>2 hours</td>
</tr>
<tr>
<td>Psyche and locomotor system</td>
<td>1 hour</td>
</tr>
<tr>
<td>Phenomenology of muscle tension and its significance in MM</td>
<td>1 hour</td>
</tr>
<tr>
<td>Specific Manual Medicine anamnesis</td>
<td>1 hour</td>
</tr>
<tr>
<td>Clinical signs that can be influenced by Manual Medicine</td>
<td>1 hour</td>
</tr>
<tr>
<td>Indication and contraindication for Manual Medicine treatment</td>
<td>1 hour</td>
</tr>
<tr>
<td>Guidelines for documentation and patient’s information</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

**Practical experience (70 training hours)**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examination in Manual Medicine</td>
<td></td>
</tr>
<tr>
<td>• of the peripheral joints</td>
<td>30 hours</td>
</tr>
<tr>
<td>• scanning examination of the spine</td>
<td></td>
</tr>
<tr>
<td>• of the articular connections of the head</td>
<td></td>
</tr>
<tr>
<td>• of the muscles of the extremities, the torso, the spine and the head</td>
<td></td>
</tr>
<tr>
<td>• of the connective tissue</td>
<td></td>
</tr>
<tr>
<td>Evaluation of the results of examination</td>
<td>10 hours</td>
</tr>
<tr>
<td>Basic mobilizing, soft tissue and neuro-muscular techniques in manual medicine for the treatment of dysfunctions of the joints, the muscles and other tissues</td>
<td>30 hours</td>
</tr>
<tr>
<td>• of the spine</td>
<td></td>
</tr>
<tr>
<td>• of the head</td>
<td></td>
</tr>
<tr>
<td>• of the extremities</td>
<td></td>
</tr>
<tr>
<td>• of the connective tissue</td>
<td></td>
</tr>
</tbody>
</table>
**Advanced course** (20 ECTS, 200 lection hours):

Acquisition of specific competencies and skills

**Theory (40 lection hours):**

<table>
<thead>
<tr>
<th>Differential diagnosis</th>
<th>20 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>• of dysfunctions und diseases (locomotor system / internal disease)</td>
<td>(4)</td>
</tr>
<tr>
<td>• of radicular und pseudo-radicular pain syndromes</td>
<td>(4)</td>
</tr>
<tr>
<td>• of lumbar and pelvic-leg pain</td>
<td>(4)</td>
</tr>
<tr>
<td>• of cervico-cranial and cervicobrachial pain, headache included</td>
<td>(4)</td>
</tr>
<tr>
<td>• of balance dysfunctions and vertigo</td>
<td>(4)</td>
</tr>
</tbody>
</table>

Evaluation of examinations with imaging techniques, especially functional radiology 4 hours

Functional control of the locomotor system: motor patterns, their composition and plasticity 6 hours

Interlinked dysfunctions (chain-reactions) in the locomotor system 10 hours

**Practical experience (160 training hours):**

<table>
<thead>
<tr>
<th>Segmental specific manipulation techniques of the spine and the joints of the extremities</th>
<th>45 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhancement of mobilisation techniques in consideration of specific techniques for muscle inhibition or muscle relaxing (muscle energy techniques, techniques based on post isometric relaxation and on reciprocal inhibition, positioning techniques)</td>
<td>50 hours</td>
</tr>
<tr>
<td>Fundamentals of myofascial techniques</td>
<td>30 hours</td>
</tr>
<tr>
<td>Treatment strategies for interlinked functional (chain-reaction) syndromes</td>
<td>10 hours</td>
</tr>
<tr>
<td>Differential diagnosis and treatment of dysfunctions of motor pattern at different control levels</td>
<td>10 hours</td>
</tr>
<tr>
<td>Indications for physiotherapy and training for rehabilitation</td>
<td>5 hours</td>
</tr>
<tr>
<td>Integration of the manual medical treatment into a multimodal treatment concept</td>
<td>10 hours</td>
</tr>
</tbody>
</table>
By the time, a trainee has accomplished the MM curriculum he/she should be able to have:

- Knowledge and understanding of the relevant basis of the medical sciences, population health sciences, pathophysiology and principles of management and care of patients with any of the core clinical conditions
- The ability to know the indication and interpretation of diagnostic tests relevant to MM: laboratory tests, diagnostic imaging techniques, test performance characteristics and especially manual tests like tissue palpation and the tests for mobility, segmental irritation and pain provocation
- An understanding of the modes of action and potential adverse effects of manual medicine therapeutic procedures and experience in advising patients about the risks and benefits of such therapeutic procedures
- Ability to analyse research and implement recent developments in MM so that their clinical practice is based on best available evidence
- Be able to provide evidence that they are maintaining their general medical as well as their manual medicine knowledge sufficient to ensure a high standard of clinical practice
- An understanding of the healthcare system(s) within their country of training
- Be prepared for their role as future clinical leaders
- Be able to be an effective member and a leader of a multidisciplinary team.

After accomplishing their training in MM, the trainees should have the ability to be confident in the following practical procedures

- performing screening examination to identify problems in the locomotor system that deserves additional evaluation
- performing a general examination to identify which regions and tissues within the region are dysfunctional and of relevance at a level appropriate to the treatment skills
- conducting regional palpatory and functional examinations of the tissues of the locomotor system to identify dysfunctions
- conducting palpation examinations of local tissues to determine the specific dysfunctions considered for manual treatment and the characteristics important in the selection of the treatment modality including indications and contraindications
- conducting different palpation examinations in order to look at and record elements of segmental irritation, pain provocation, sensory changes, tissue texture changes, examination of range of motion and functional asymmetry, and characteristics of end-feel barrier
- documenting reproducibility and inter-examiner reliability of manual medicine diagnostic tests

The curriculum is focussed on outcomes but with sufficient flexibility to allow personal development distinguished by the needs of the individual, the centre in which they are training and the country where this is occurring. Training should include teaching skills for generic competences and MM additional competence.
Thus, the curriculum would be based on the following principles for a European specialist with additional MM competence:

- Be a multidisciplinary oriented specialist and a multi-system disease expert
- Be competent in history taking, physical examination, management and continuing care of patients with common and a number of other pathological conditions of the locomotor and functional connected systems (i.e. viscera)
- Communicate effectively with patients, their families and with professional collaborators
- Practise evidence-based care
- Practise cost-effective care
- Understand the nature of, and degree of risk taken in their clinical practice
- Maintain the quality of their practice by being aware of developments in the subject
- Undertake multi-disciplinary team (MDT) work
- Provide clinical leadership also ability to be led and work as part of a multi-disciplinary team
- Demonstrate a lifelong commitment to reflective learning
- Promote the health and well-being of individual patients, communities, and populations
- Teach and support trainees
- Be committed to the health and well-being of individuals and society through ethical practice, profession-led regulation and high standards of personal behaviour and clinical practice
- Have a portfolio of evidence that they have achieved the above goals; especially should they also wish to seek medical practice in a country different from the country in which they trained.

Different countries will have different approaches to achieve these outcomes but the evidence that they have been achieved should be increasingly of a homogeneous nature that facilitates the learning and experiences of trainees, the engagement of clinical supervisors and ease of recognition of progress and achievements across EU member countries. In addition, such an approach will help provide surety to the public and to individual countries that the training has been of an appropriate standard and that the performance of physicians is likewise of a satisfactory standard.

c. Assessment and evaluation

Countries will use assessment strategies appropriate to their needs. Progressively, there will be a move to a common approach to determining whether an individual is suitable to be recognized as a ‘European medical specialist with additional MM competence’. Thus, there will need to be an assessment of knowledge, which would be through a written examination.
This examination would sample from the list of core clinical conditions shown above and test knowledge in the areas of relevant science (basic medical and clinical sciences, population health sciences and behavioural sciences) and clinical practice (diagnosis, investigation and treatment). This testing will be in a ‘best of five’ format.

These tests would be delivered across Europe on a regular basis. There will be an assessment of knowledge (formative) after 100 hours (according to at least 10 ECTS credit points) of contact training and a second (summative) assessment towards the end of the period of training (i.e. after 30 ECTS credit points). Trainees will be able to retake the summative assessment should they fail it initially. Such cognitive testing does not easily allow an exploration of an individual’s behaviour in complex and multidisciplinary clinical situations. Situational Judgement Tests would allow such determinations and in due course, these will be introduced, initially in a formative manner.

Assessment of skills in practical procedures will happen in the training institution. Such assessments may include, where appropriate, the use of simulation prior to an assessment in clinical practice.

Clinical experience will be assessed under supervision in the final course of the training by a review of the patients seen by a trainee and for whom the trainee has had a personal responsibility as regards care. Evidence of such engagement will be maintained in a clinical logbook or equivalent. The trainee’s trainer together with the trainee will review the logbook in a formative manner. The local Programme or Course Director together with relevant trainers of the attended courses will review the logbook in a summative manner, separately.

Professional behaviours would be part of the assessment strategy too and typically, a 360-degree multi-source feedback (MSF) would occur at the end of the first 100 hours of training and at the start of the final course of training. Such assessments may occur more frequently in some countries. The Programme or Course Director would be central to the discussion and reflection undertaken after each MSF and provide guidance and support in response to comments made by those providing the MSF to a trainee. Additional MSFs would occur if the initial MSF demonstrated a less than adequate performance by the trainee. Local national standards as regards an individual’s suitability for clinical practice would determine whether a trainee was competent as a medical specialist with additional MM competence.
In order to be eligible to apply for a post in a country other than that in which one has been trained or to be recognized as a ‘European specialist with additional MM competence’ all aspects of the above assessment approaches will need to be completed satisfactorily.

d. Governance

Trainees will get support at a number of levels. A trainer will supervise a trainee’s workshop practical work. The trainer will be responsible for providing the trainee with regular feedback as regards their performance and guidance in matters related to the clinical practical procedures that they are delivering. In addition, a Programme Director will lead in an institution (or in a group or network of allied institutions) all training programmes in manual medicine. A trainee will meet with their Programme Director or Course Director on a regular basis, which typically would be at the end of every course, to discuss their work. Such discussions will take the format of an appraisal with the trainee providing information about how they are progressing, accompanied by documented evidence of practical engagement and achievement of their learning and training outcomes. The purpose of the appraisal is to enable a constructive discussion about how the learning needs of the trainee should be met. Subsequent appraisals will revisit earlier appraisals to determine progress in achieving these needs. The appraisals are not part of any summative assessment process but are designed entirely to support the trainees.

The governance of an individual trainee’s training programme will be the responsibility of the Programme or Course Director and the institution(s) providing the training programme. A trainer will be responsible to the Programme Director for delivering the required training in their area of practice.

II. TRAINING REQUIREMENTS FOR TRAINERS

1. Process for recognition as trainer

   a. Requested qualification and experience

   A trainer would be a registered medical specialist recognized in the EU and registered too having additional MM competence on a DAS level within his or her own country. They will have satisfied any relevant national requirements as regards accreditation/appraisal/training to be a trainer. A Programme (or Course) Director would be someone who has been/is a trainer and who has considerable knowledge and experience of training doctors.
Trainers and Programme resp. Course Directors must be in active clinical practice and engaged in training in the training centre or network. Their appointments would be for two years in the first instance. In some countries, their work would be reviewed within the training centre or network on a regular basis at staff appraisals (or equivalent) but in any case, it would be a requirement that their training activities are reviewed every second year of their appointment. Subject to mutual agreement, their position may be continued for a further two years and so on. It would be unlikely for a Programme Director to hold this position for more than five two-year appointments. This would enable a turnover and refreshment of appointees.

Recognition across the EU as regards competence to be a trainer despite practitioners coming from different countries and Directive 2005/36 / EC (Paragraph C2/20) may cover having different routes and extents of training.

To become a trainer in MM, the person has to

- have full accreditation in his country equivalent to a European specialist with the additional competence in MM,
- use MM in his daily professional practice for at least two years after his own accreditation,
- pass a period of assistances in modules / courses, i.e. he/she has to attend all modules in a second passage as assistance,
- to repeat the respective course he/she wants to teach at least two times, presenting several techniques under the supervision of an experienced trainer,
- then to teach the respective complete module under supervision as a didactic examination/ demonstration lesson,
- and has to participate in a re-evaluation and re-appointment procedure every second year.

b. Core competencies for trainers

Within the abovementioned training to become a trainer, the person has to

- demonstrate the perfect knowledge of the theoretical contents,
- demonstrate the capacity to explain and demonstrate didactically good the manual procedures in diagnostics and therapy,
- demonstrate to answer all questions of the audience,
- develop didactic capacity to instruct step by step the contents of the additional competence to the trainees,
• develop the capacity to identify trainees that need special assistance (and provide it to them)
• identify trainees with inappropriate behaviour (improper language, improper physical assaults), to discuss this subject with the respective trainee, and, as a last resort maybe exclude that person from further participation,
• and has to prepare himself to fulfil the criteria of a “Master of Advanced Studies (MAS)” according to the Bologna criteria, i.e. collecting 60 ECTS in postgraduate education, which includes the presentation of a scientific master-thesis in connection with a university.

2. **Quality management for trainers**

Trainers and Program Directors should have their job description agreed with their employer, which will allow them sufficient time for support of trainees and in the case of Program Directors, sufficient time for their work with trainers. A trainer should not have more than fourteen trainees in one course setting. The number of trainees would determine the amount of time that would be allocated to their support.

Trainers will collaborate with trainees, the Program Director and their Institution to ensure that the delivery of training is optimal. They should meet at least in every module with all trainees to openly discuss all aspects of training including the evaluation and approval of their test results.

The educational work of trainers and Program Directors should be appraised annually within their Department/Institution.

The national Institution/Society, the European scientific society ESSOMM, and the MJC-MM of UEMS will provide educational support of trainers and Program Directors.

Trainers and Course Directors will collaborate with trainees, the Programme Director and their Institution/Society to ensure that the delivery of training is optimal. After every module, the trainees will have to fill in a questionnaire of an accredited independent institute about the quality of the module (punctuality, didactic quality of presentations, didactic quality of practical demonstrations and of the supervision during the workshop-sessions). That independent institute will evaluate these questionnaires. According to the results, additional qualification of the trainer may become necessary.

In the first two up to four times of being a responsible trainer of a module, there will be present an experienced teacher for supervision. At the end of course-every day, there will
be a discussion between the young trainer and the supervisor to improve the didactic performance.

III. TRAINING REQUIREMENTS FOR TRAINING INSTITUTIONS

1. Process for recognition as training centre

a. Requirement on staff and clinical activities

A ‘Training Centre’ is a place or number of places of a provider where trainees are able to develop their manual medicine competence in courses. Such provision may include sites that are condition specific (i.e. an ambulance for outpatients) and thus may not offer a wide clinical experience such as that provided by a large centre (i.e. a hospital).

As mentioned above, a training in MM as additional competence for a European Medical Specialist is a postgraduate training not necessarily related to a university. Any association, society or organisation of physicians / surgeons fulfilling the criteria to be trainers in MM can use an institution appropriate for teaching, i.e. having enough space for lecture- and workshop-halls, with sufficient number of treatment-tables, reading-rooms, with access to a specific library (specific for anatomy, physiology, biomechanics, neurology, MM-techniques, and journals for clinical evidence of MM), bath-rooms etc.

For most of the MM training, real patients are not required. The application of manual techniques to real patients by unexperienced trainees is unethical and without any malpractice insurance. Therefore, procedures like pain-palpation, positioning of the patient’s body, applying fixation to one part of a body while moving other parts with a certain force, the duration, velocity and intensity of a repetitive mobilisation in relation to a single, high-velocity impulse of a manipulation cannot happen to real patients during this initial formation phase. The trainees must start this training in practical workshops between each other. Only at the end of the education – i.e. during the last module – there is required a patient for each trainee for one or two hours per day. Even then, all procedures have to happen under close supervision. Such a real patient may be an outpatient, which changes every day, or may be in in-patient, which may be the same for the whole module. Therefore, the minimum number of in-patients with problems of the locomotor system required for the last module is the number of participating trainees. The trainers instead, in their professional daily life besides the courses/modules, usually see
between 20 and 50 outpatients who need at least manual diagnosis. Almost all of them will also receive some sort of manual treatment.

Thus, manual medicine training may take place in a single institution or in a network of institutions working together, to provide training in the full spectrum of clinical conditions and skills detailed in the curriculum. For the purpose of patient demonstrations or it is possible to include a hospital or institution that provides a number of in-patients.

For the additional competence in MM for a European Medical Specialist, a specific scientific activity like participation in any research is not required. Nevertheless, the trainee has to learn and/or revise and/or update the essential anatomy, physiology, neurology and biomechanics that form the scientific basis of today’s MM-application. However, in case trainees want to participate in scientific research, there will be sufficient possibilities to engage themselves. All European MM-Training providers have access to researchers in universities for governance, although most of the trainers are personally not university-based. These academic connections are also necessary for those who want to proceed to a “Master of Advanced Studies” that in fact requires a scientific thesis.

The staff of a training centre will engage collaboratively in regular reviews of the centre’s/institution’s educational activity and performance. There will be regular multi-disciplinary meetings to determine optimal care for patients and such meetings will involve both medical and other healthcare staff. There will be clinical engagement with specialities such as rehabilitation medicine, orthopaedic surgery, rheumatology, paediatrics, maxillo-facial medicine, and internal medicine.

Within a manual medicine training centre, there should be a wide range of practical techniques presented so that a trainee will be able to attend all common manual medicine problems.

Specialist staff appointed to a training centre will have completed all training requirements themselves and will have additional training in teaching and mentoring trainee staff. Specialists already in post will undertake training, if they have not already completed this, to enable them to support trainees optimally. Such training and maintenance of skills and knowledge in this area will be part of their job-plan and subject to appraisal (see above).

It would be unacceptable for a trainee to have only one trainer during their entire training period. It would be more usual for a trainee to have a number of named trainers with whom they work in the different courses/modules. Each trainer would cover different aspects of a trainee’s clinical training but this individual will not be the only person who will
provide educational support for a trainee. (See above for comments about the Programme Director and his/her role). It would be expected that the Trainers or Course Directors in a training centre(s) represent a wide range of manual medicine expertise and that such individuals demonstrate that they remain up to date with their clinical practice, knowledge and educational skills.

There is no specific trainee/trainer ratio required but it would be unusual for there to be less than two teachers in a training centre and for a trainer to have more than fourteen trainees attached to one course at the time. If a trainee moves between a number of centres for his/her training it is recommended that whenever possible although the trainers may change, the Programme Director should remain the same. Programme Directors may also be trainers.

It is not a requirement that a training centre is also an academic centre but it is desirable that a training centre would have strong academic links and contribute to research and an aspiration so that all training centres will become also involved in the future.

It would be expected that a training centre as described in this document would have been recognized/accredited by the relevant national authority as being suitable for training European medical specialist with additional MM competence. Confirmation of such status of training centres will be by National Representatives to the MJC and Board.

When a manual medicine centre wishes to be recognized as a training centre, they will submit a report to the UEMS MJC of Manual Medicine through their National Representative(s). This will demonstrate that all the necessary educational and training provisions are available in a sustained manner. Subsequently, on a biennial basis a training centre will provide a brief report on its activities to the MJC, again through their National Representative(s). This will demonstrate the maintenance of the education and training provision and allow examples of good practice to be disseminated.

b. **Requirement on equipment**

The essential equipment for MM are the hands of the performing physician/surgeon. In addition, a treatment-table for maximum three trainees is required to enable the clinical practice expected of a training centre and thus provide the necessary educational opportunities for trainees. Any further medical-technical equipment is not required.
In addition, a training centre would have sufficient equipment of Computing and Information Technology, and access to specific MM-library resources must be available.

2. Quality Management within Training institutions

**Accreditation:** each module (consisting out of 50 hours training) has to be submitted in advance to the respective health care stakeholders (i.e. ministry of health, chamber of physicians, governmental institutions for professional formation etc., or to the UEMS EACCME platform) for accreditation. Modules not submitted and accredited in advance will not count for the 300 hours training in MM.

**Clinical governance:** as the training in MM will not happen in a hospital using real patients, clinical governance concerning the MM training can only concern the quality of the outcome of the training. Therefore, the accredited provider is responsible for increasing the quality, transparency and accountability of the training. The means for that: constant involvement of the ESSOMM and its member societies in basic research, participation of the trainers in evidence trials, the repetitive testing during the training phase, the participation of the trainees in the audit process, and the constant control of the contents of the modules by the health care authorities.

**Manpower planning:** the application for accreditation of a teaching module requires exact information about the teachers as well as the assistant-teachers (professional CVs). There is a strict and binding relation for the number of trainers towards the number of trainees. Therefore, each national provider has to produce a sufficient number of trainers (full teachers and assistant-teachers). In addition, trainers must be younger than 65 years. Each institution providing MM training according to these requirements is therefore responsible to form in due time enough young, well-trained teachers. However, there is also the possibility to “borrow” teachers from other ESSOMM-societies for special modules, in case a society has not enough own trainers for these items. Also in this respect, ESSOMM and the UEMS MJc mm are acting as a multi-layered network.

**Regular report:** the European societies for MM are not hospital-based, they are organised as private societies, associations, organisation bodies that are controlled by the chamber of physicians or respective official bodies of the health care systems. They report regularly to their General Assemblies and to the controlling bodies.

**External auditing:** external, independent institutions prepare and evaluate quality evaluation questionnaires. The respective national bodies responsible to control further education (postgraduate) provide the correct contents of the modules and the final exams
(so-called course books). Financial auditing and transparency is guaranteed by the necessity of each provider to present a concise report to the respective tax authorities. As the education and training is financed exclusively by the registration fees of the trainees, sometimes in addition sponsored by the membership-fees of the national MM-society, the provider has to proof very transparent that there is no financial gain.

**Transparency of training programmes**: until the foundation of ESSOMM in 2009, training programmes for MM in Europe were diverse. One of the essential tasks of the ESSOMM network is the unification and constant development of a European Core Curriculum that is obligatory for all UEMS member societies. This program on one hand needs the consensus of all ESSOMM member societies, on the other hand it needs also the approval of the respective national ministry of health or the respective sub-structures for the control of physicians’ education and training. ESSOMM has already made some important progress in this respect.

**Structure for the coordination of training**: besides the national health care authorities that give accreditation for the submitted training, ESSOMM as the European scientific organisation has taken the task to coordinate the training in MM in Europe.

**Framework of approval**: today the national health care authorities control the framework. Although the regulations in Europe are similar, they are not identical. It is the aim of ESSOMM together with the UEMS MJC MM to apply in near future for the accreditation of the concept, the teaching material and the exam at EACCME, the UEMS body for the unification and quality control of Medical Education.