IFOMPT

INTERNATIONAL FEDERATION OF ORTHOPAEDIC MANIPULATIVE PHYSICAL THERAPISTS (IFOMPT) INC

Educational Standards In Orthopaedic Manipulative Therapy

PART A: EDUCATIONAL STANDARDS 2016©

Members of the IFOMPT Standards Committee 2016:

Dr Alison Rushton (Chair)
Dr Karen Beeton
Dr Ronel Jordaan
Mr John Langendoen
Mrs Lenerdene Levesque
Mrs Lorrie Maffey
Dr Jan Pool

Table of Contents

SECTION 1

PREAMBLE

Orthopaedic Manipulative Therapy (OMT) is a specialisation within Physical Therapy, which is concerned with the prevention and conservative management of pain and other symptoms of neuromusculoskeletal (NMS) dysfunction in the spine and extremities.

The International Federation of Orthopaedic Manipulative Physical Therapists (IFOMPT) is a non-government International Manipulative Physical Therapy Federation representing international collaboration in Manipulative Therapy. It is concerned with Manipulative Therapy and Physical Therapists, and is a recognised sub group of the World Confederation for Physical Therapy (WCPT), which in turn is a part of the World Health Organisation (WHO).

This document has been developed using the UK English system of spelling.
The words that are underlined throughout the document are hyperlinked to the Glossary (Section 11).

SECTION 2

CATEGORIES OF MEMBERSHIP (as stated in the IFOMPT Constitution 2012)

The Federation's membership shall be composed only of Orthopaedic Manipulative Physical Therapist Organisations which consist only of Orthopaedic Manipulative Physical Therapists. These Member Organisations (MO) shall be represented in the Federation by a representative (i.e. delegate) elected from within that organisation. The MO delegates shall make up the Delegate Assembly.

There are two categories of membership relevant to the Standards Document

2 .1 Member Organisation (MO)

(i) Any organisation whose voting membership on Federation matters consists only of Orthopaedic Manipulative Physical Therapists who have met the recognised Federation Educational Standards and who are members of the national physical therapy association that is a MO of WCPT.

(ii) The organisation, representing OMT in that country shall not represent just one area, group or educational institution but all eligible physical therapists.

The organisational structure to ensure such representation can be decided at a national level. Where a Registered Interest Group (RIG) fulfills Full Membership criteria and exists within a country with a MO, the MO should facilitate implementation of the constitutional requirements to allow representation of the RIG within IFOMPT.

The organisation must be conducting or recognising a programme(s) within their post graduate education in manipulative and other manual therapy skills in accordance with the Educational Standards document.

(iii) An organisation must comply with the requirements of the Federation.

(iv) The organisation must be recognised as the organisation representing the country within IFOMPT by their national physical therapy association which is a WCPT MO.

2 .2 Registered Interest Group (RIG)

Before applying for Membership, an Orthopaedic Manipulative Physical Therapy organisation, consisting only of physical therapists who are members of their country's national physical therapy association that is a member of WCPT, can apply to be a "Registered Interest Group" by completing the application form available from the Federation.
RIGs shall not have the right:

(i) to vote
(ii) to hold office
(iii) to serve as chairman of any committee

SECTION 3

EDUCATIONAL STANDARDS

An educational curriculum referred to as the "standards" was first presented in 1977 at the IFOMPT meeting in Vail, USA. It was ratified in Israel at WCPT in 1978. The curriculum covers the post-graduate training of Physical Therapists in OMT. A revised curriculum was accepted in 1992 at the IFOMPT meeting in Vail, USA. The educational standards, Part A (accepted 2000) extended the basic training received in OMT entry level physical therapy training programmes so that Orthopaedic Manipulative Physical Therapists attain a high standard of patient care. The document detailing the processes of International Monitoring was accepted in Cape Town (2004) and added to the Standards Document as Part B.

The strategic plan for IFOMPT (2001) identified a six-yearly review process of the Standards Document. The 2008 Standards Document Part A was developed through a multi-stage process including: questionnaire to MOs to review currency, strengths, weaknesses, structure, format and content of previous document; discussion of questionnaire data; support for a move to a competency based framework of standards; further rounds of feedback informing Standards Committee's discussions; voting in acceptance of the 2008 document by the MOs at the General Meeting in Rotterdam.

The 2016 Standards Document Part A has been developed through a process of: Survey Monkey evaluation of 2008 Standards Document; Standards Committee proposal of required changes; agreement of proposed changes by MOs with some modifications; iterative process of drafted changes and MO review, to present a definitive document for review and vote in Glasgow 2016 at the General Meeting.

The competencies (2008) have been moved to an appendix to act as a resource for MOs and RIGs when greater detail is required, for example for reviewing existing programmes or for writing a new curriculum. The competencies have been replaced by a lesser number of learning outcomes that are detailed under the dimensions that remain unchanged from the 2008 document. The learning outcomes serve as a detailed guide towards standards of education and training acceptable to IFOMPT. Learning outcomes are measurable statements of what a student is expected to know, understand and/or be able to demonstrate after completion of a process of learning. They cover theoretical, practical and clinical knowledge applied to NMS dysfunction in the spine and extremities, and provide the minimum requirements for IFOMPT membership. IFOMPT recognises that there will be differences in strengths and emphases in different OMT courses around the world. These differences are necessary and encouraged by IFOMPT for the future development of OMT. IFOMPT also recognises that differences will exist in methods and delivery of education in various countries. IFOMPT has a commitment to research and recognises the importance of evidence informed OMT diagnosis and practice. It fosters inquiry and encourages Orthopaedic Manipulative Physical Therapists' involvement in research.

The acceptance and implementation of the educational standards both theoretical and practical are a mandatory **MINIMUM** requirement for countries seeking full membership of IFOMPT. Formal evaluations to demonstrate member competency are prerequisite for ongoing membership status of the MO. The new document will enable RIGs and MOs to map and develop existing curricula to the new standards defined as dimensions and learning outcomes with guidance and support from the Standards Committee.

SECTION 4

ORTHOPAEDIC MANIPULATIVE THERAPY

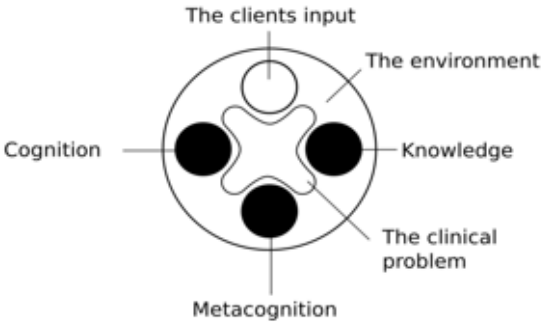
The definition of OMT (as voted in at the General Meeting in Cape Town, March 2004) is:

"Orthopaedic Manual Therapy is a specialised area of physiotherapy/Physical Therapy for the management of NMS conditions, based on clinical reasoning, using highly specific treatment approaches including manual techniques and therapeutic exercises.

Orthopaedic Manual Therapy also encompasses, and is driven by, the available scientific and clinical evidence and the biopsychosocial framework of each individual patient".

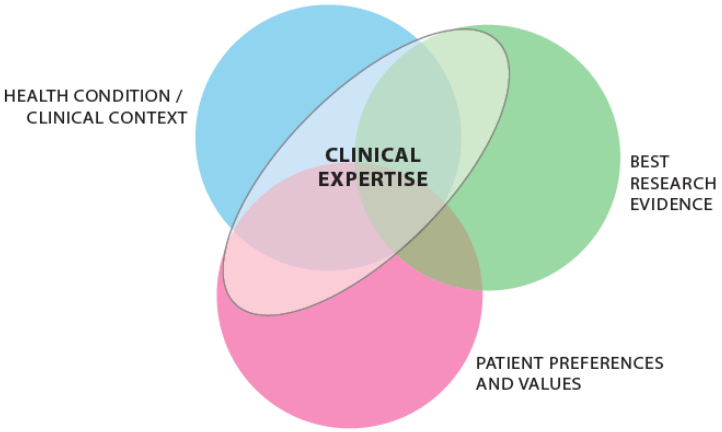
OMT Physical Therapists can act as the principal provider of patient care or as a member of an interprofessional team within a health care system. Advanced clinical reasoning skills are central to the practice of OMT Physical Therapists, ultimately leading to decisions formulated to provide the best patient care. Clinical decisions are established following consideration of the patient's clinical and physical circumstances to establish a clinical physical diagnosis and treatment options. The decisions are informed by research evidence concerning the efficacy, risks, effectiveness and efficiency of the options (Haynes, 2002). Given the likely consequences associated with each option, decisions are made using a model that views the patient's role within decision-making as central to practice (Higgs and Jones, 2000), thus describing a patient centered model of practice.

Figure 1: Patient centered clinical reasoning (This figure was published in Clinical Reasoning in the Health Professions, Joy Higgs and Mark Jones, Chapter 1 age 11, Copyright Elsevier 2000) reproduced with permission



Therefore, practice in OMT is informed by a complex integration of research evidence, the patient's preferences and the patient's individual clinical presentation as illustrated in the following model of expertise:

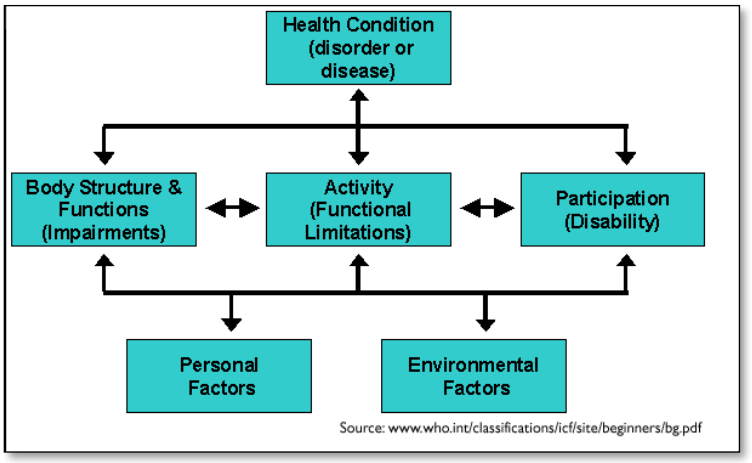
Figure 2: Model of clinical expertise (Modified from Haynes RB, Devereaux PJ, Guyatt GH. Physicians' and patients' choices in evidence based practice. BMJ 2002; 324:1350-1351)



The application of OMT is based on a comprehensive assessment of the patient's NMS system and of the patient's functional abilities. This examination serves to define the presenting dysfunction(s) in the articular, muscular, nervous and other relevant systems; and how these relate to any disability or functional limitation as described by the WHO's International Classification of Functioning, Disability and Health (ICF).[1] Equally, the examination aims to distinguish those conditions that are indications or contraindications to OMT Physical Therapy and/or demand special precautions, as well as those where anatomical anomalies or pathological processes limit or direct the use of OMT procedures.

OMT includes a large range of therapeutic procedures such as passive movements (mobilisation and/or manipulation), rehabilitative exercises, patient information/education as well as other interventions and modalities. The main aims of OMT are to relieve pain and to optimise the patient's functional ability.

Figure 3: WHO's International Classification of Functioning, Disability and Health (Reproduced with permission from Towards a Common Language for Functioning, Disability and Health ICF, Geneva, Page 9 http://www.who.int/classifications/icf/icfbeginnersguide.pdf)



[1] The ICF is WHO's framework for measuring health and disability at both an individual and broader population level. The ICF places emphasis on the effects of health and disability, and takes into account the social aspects of disability and does not see disability only as 'medical' or 'biological' dysfunction. By including Contextual Factors, in which environmental factors are listed, ICF enables evaluation of the impact of the environment on the person's functioning.

SECTION 5

THE SCOPE OF OMT PRACTICE

OMT Physical Therapists provide advanced knowledge of comprehensive conservative management characterised by the analysis, interpretation and treatment of health problems resulting from NMS disorders.

In order to work effectively as an OMT Physical Therapist, advanced knowledge, skills and attributes are required using the principles of evidence informed practice and the processes of clinical reasoning. The working of the OMT Physical Therapist can be described in seven clinical roles. The competencies detailed in Appendix D, are central to these defined roles and the effective working of an OMT Physical Therapist. It is recognised that these roles are required for an OMT Physical Therapist at a postgraduate level to work in practice and that therapists will go on to work in a range of areas (e.g. research, academic positions, clinical scientists).

1) The OMT Physical Therapist as an expert/clinical decision-maker/clinician
2) The OMT Physical Therapist as a communicator
3) The OMT Physical Therapist as a collaborator
4) The OMT Physical Therapist as a leader/manager
5) The OMT Physical Therapist as a health advocate
6) The OMT Physical Therapist as a scholar
7) The OMT Physical Therapist as a professional

Figure 4: Clinical Roles of the OMT Physical Therapist (Frank JR, Snell L, Sherbino J, editors. Can Meds 2015 Physician Competency Framework. Ottawa: Royal College of Physicians and Surgeons of Canada; 2015, reproduced with permission)

5 .1 The OMT Physical Therapist as an EXPERT/CLINICAL DECISION-MAKER CLINICIAN.

As Experts, OMT Physical Therapists provide high-quality, safe, patient centered care drawing on their propositional knowledge, clinical skills and professional values. They systematically collect and interpret quantitative and qualitative information relevant to the patient's health problems and needs and make clinical decisions and carry out assessment procedures and therapeutic interventions. They utilise the data to formulate differential diagnoses and screen

for the appropriateness of OMT interventions and initiate referral to other health care professionals if required. This is done within their scope of practice with an understanding of the limits of their expertise. Their clinical decision-making is evidence informed and takes into account the patient's preferences. Their clinical practice is up-to-date, ethical and resource-efficient and is conducted in collaboration with patients and their families, other health care professionals and the community. The role as an Expert is fundamental and draws on the competencies required for the intrinsic roles of communicator, collaborator, manager, health advocate, scholar and professional.

5 .2 The OMT Physical Therapist as a COMMUNICATOR

Excellent verbal and non-verbal communication skills are required for building an effective therapeutic alliance and establishing rapport with patients, care givers, health professionals and other sectors and stakeholders, and the media. These skills are required to communicate between the OMT Physical Therapist and individuals, groups, the community and the general population. OMT Physical Therapists enable patient centered therapeutic communication by actively listening to the patient's experiences and exploring the patient's perspective, including his or her fears, ideas about the health condition and its impact and expectations of health care professionals. The OMT Physical Therapist integrates this knowledge and engages in a shared decision-making process with the patient to develop treatment goals and an evidence informed plan that reflects the patient's needs, values and preferences. These abilities are critical to empowering individuals/target groups to make informed decisions and are essential in eliciting patients'/target groups' needs, beliefs and expectations about their health.

5 .3 The OMT Physical Therapist as a COLLABORATOR

Collaboration is essential for safe, high-quality patient centered care, and involves patients and their families, other health care professionals, community partners and health system stakeholders. The OMT Physical Therapist collaborates effectively to build sustainable and equitable relationships with patients and multi-disciplinary teams to facilitate the attainment of meaningful outcomes and health gains. Collaboration requires relationships based in trust, respect, and shared decision-making among a variety of individuals. It involves sharing knowledge, perspectives and responsibilities and a willingness to learn together. This requires understanding of others, pursuing common goals and outcomes, and managing differences. This does not reduce the need, however, for the OMT Physical Therapist to be able to function independently when required (e.g. working in a remote location).

5 .4 The OMT Physical Therapist as a LEADER/MANAGER

As leaders, OMT Physical Therapists engage with others to contribute to a vision of a high-quality health care system and take responsibility for the delivery of excellent patient care through their activities as clinicians, administrators, scholars and teachers. OMT Physical Therapists function as leaders/managers, engaging in shared decision-making involving resources, co-workers, tasks, policies and contribute to the development and delivery of continuously improving health care. They do this in the settings of hospitals, private clinics, community health centers, health promotion units, and in the broader context of the health care system. Thus, OMT Physical Therapists are required to prioritise and effectively execute tasks through teamwork with colleagues, and make systematic decisions when allocating finite health care resources. They function as individual care providers, as members of teams, and as leaders in the health care system locally, regionally, nationally and globally. OMT Physical Therapists take on positions of leadership within the context of professional organisations and the health care system.

5 .5 The OMT Physical Therapist as a HEALTH ADVOCATE

OMT Physical Therapists contribute their expertise as they work with communities or patient populations to improve health. They recognise the importance of advocacy activities in responding to the challenges represented by those social, environmental, psychological and biological factors that determine the health of patients and society. They recognise advocacy as an essential and fundamental component of health promotion that occurs at the level of the individual patient, the practice population, the health care team, the broader community, the media and at all levels of government. The OMT Physical Therapist supports patients in navigating the health care system; seeks to improve the quality of their clinical practice; contributes their knowledge to positively influence the health of patients, communities or population and increases awareness about important health issues. They engage with other health care professionals, community agencies, administrators and policy-makers. Health advocacy is measured by both the individual and collective responses of OMT Physical Therapists to health issues that impact at all levels of health care from the individual through to the development of public health initiatives and policy.

5 .6 The OMT Physical Therapist as a SCHOLAR

As Scholars, the OMT Physical Therapist demonstrates a lifelong commitment to excellence in practice through continuous learning and by teaching others, evaluating evidence and contributing to the application, dissemination and translation of knowledge. They recognise the need to be continually learning and model the practice of life-long learning for others. They continually evaluate the processes and outcomes of their clinical practice, sharing and comparing their work with others and actively seek feedback to improve quality of care and patient safety. Through their scholarly activities, they identify pertinent evidence, evaluate it using specific criteria, and apply it in their practice. Through their engagement in evidence informed and shared decision-making, they recognize uncertainty in practice and formulate questions to address knowledge gaps. They identify evidence synthesis that are relevant to these questions and arrive at clinical decisions that are informed by evidence while taking the patient values and their clinical expertise into account. As teachers, they facilitate individually and through teams, the education of OMT Physical Therapists, colleagues, co-workers, the public and others.

5 .7 The OMT Physical Therapist as a PROFESSIONAL

The OMT Physical Therapists have a societal role as professionals with a distinct body of knowledge, skills and attributes dedicated to improving the health and well-being of individual patients and society. They are committed to the highest standards of excellence in clinical care and ethical conduct, and to the continued development of mastery of their discipline, through continuing personal and professional development. The role of a Professional includes clinical competence, a commitment to ongoing professional development, promotion of the public good, adherence to ethical standards, and values such as integrity, honesty, altruism, humility, respect for diversity, and transparency with respect to potential conflicts of interest.

See Section 10 References for further details on these roles

SECTION 6

A FRAMEWORK OF DIMENSIONS AND LEARNING OUTCOMES FOR OMT

6 .1 Purpose of the Framework

The Educational standards in OMT provide a clear and detailed description of the knowledge, skills and attributes expected of a competent OMT Physical Therapist working within a biopsychosocial model of practice, in the patient-centered contemporary healthcare environment. This framework is consistent with current adult learning theory and provides a contextual understanding of the required outcomes of a programme in OMT. Importantly, the framework permits the learning process to be flexible, innovative and responsive to the individual learning needs of the OMT Physical Therapist. There is, therefore, minimal prescription in this document as to how the required learning outcomes should be achieved and evaluated. The onus is on the educational provider to demonstrate that their programme produces OMT Physical Therapists who meet the stipulated learning outcomes (and their constituent knowledge, skills and attributes), but allows them significant scope as to how they might achieve these outcomes. Such an approach recognises the resource, geographical and other challenges in providing OMT education internationally, but ensures a consistency of competency across the member nations of IFOMPT and, therefore, establishes a minimum standard. (Examples of the types of learning strategies and assessment tools which could be employed are provided throughout the document (e.g. Appendix B), but are not intended to be prescriptive).

6 .2 Development of the Framework

The competencies (2008) have been moved to Appendix D to act as a resource for MOs and RIGs when greater detail is required, for example for reviewing existing programmes or for writing a new curriculum. The competencies have been replaced by a lesser number of learning outcomes that are detailed under the dimensions that remain unchanged from the 2008 document. The learning outcomes serve as a detailed guide towards standards of education and training acceptable to IFOMPT. Learning outcomes are measurable statements of what a student is expected to know, understand and/or be able to demonstrate after completion of a process of learning. They cover theoretical, practical and clinical knowledge applied to NMS dysfunction in the spine and extremities, and provide the minimum requirements for IFOMPT membership. This process of development reflects the IFOMPT definition of OMT and has also integrated the feedback from MOs to enable the learning outcomes to reflect contemporary OMT practice for 2016 onwards.

6 .3 Components of the Framework

The framework details the following components:

Dimensions
The dimensions are the major functions for performance at Post Graduate level in OMT. The dimensions reflect the definition and scope of OMT practice as detailed in Sections 4 and 5 of this document.

Learning outcomes
The learning outcomes are the components of each dimension stated as a measurable performance outcome. Overall, the learning outcomes linked to a dimension indicate the standardised requirements to enable an OMT Physical Therapist to demonstrate each major function for performance at Post Graduate level in OMT. The learning outcomes reflect the knowledge, skills and attributes that characterise a Post Graduate level in OMT. Knowledge encompasses the theoretical and practical understanding, use of evidence, principles and procedures. Skills encompass the cognitive, psychomotor and social skills needed to carry out pre-determined actions. Attributes encompasses the personal qualities, characteristics and behaviour in relation to the environment.

SECTION 7

DIMENSIONS OF OMT

(There is no priority inferred in the order of listing the Dimensions).

Dimension 1: Demonstration of critical and evaluative evidence informed practice

Dimension 2: Demonstration of critical use of a comprehensive knowledge base of the biomedical sciences in the speciality of OMT

Dimension 3: Demonstration of critical use of a comprehensive knowledge base of the clinical sciences in the speciality of OMT

Dimension 4: Demonstration of critical use of a comprehensive knowledge base of the behavioural sciences in the speciality of OMT

Dimension 5: Demonstration of critical use of a comprehensive knowledge base of OMT

Dimension 6: Demonstration of critical and an advanced level of clinical reasoning skills enabling effective assessment and management of patients with NMS disorders

Dimension 7: Demonstration of an advanced level of communication skills enabling effective assessment and management of patients with NMS disorders

Dimension 8: Demonstration of an advanced level of practical skills with sensitivity and specificity of handling, enabling effective assessment and management of patients with NMS disorders

Dimension 9: Demonstration of a critical understanding and application of the process of research

Dimension 10: Demonstration of clinical expertise and continued professional commitment to the development of OMT practice

SECTION 8

LEARNING OUTCOMES OF OMT

It is a requirement that educational programmes address all the learning outcomes for each dimension. The achievement of the learning outcomes for each dimension can be mapped on the mapping template, (or a similar tool developed by the educational institution or MO), to provide evidence that the learning objectives are covered and assessed.

8 .1 Dimension 1

Dimension 1 **Demonstration of critical and evaluative evidence informed practice**
By the end of the programme of study, the successful student will be able to 1. Retrieve, integrate and critically apply knowledge from the clinical, biomedical and behavioural sciences in order to draw inferences for OMT practice, recognising the limitations of incorporating evidence into practice 2. Critically evaluate the results of treatment accurately, and modify and progress treatment and management as required using outcome measures to evaluate the effectiveness of OMT 3. Integrate and apply evidence informed approaches in the presentation of health promotion and preventative care programmes 4. Enhance and promote the rights of the patient to actively participate in the health care management taking into account the patient's wishes, goals, attitudes, beliefs and circumstances
Examples of learning strategies that can be used to address learning outcomes: ✓ Case analysis ✓ Student seminar presentations ✓ Discussion and debates ✓ E-learning
Examples of assessment strategies that can be used to assess learning outcomes: ✓ Critical analysis of a case study ✓ Management of returning (follow-up) patient ✓ Essay evaluating evidence informed management ✓ Critique of an article

8 .2 Dimension 2

Dimension 2 **Demonstration of critical use of a comprehensive knowledge base of the biomedical sciences in the speciality of OMT**
By the end of the programme of study, the successful student will be able to 1. Critically apply knowledge of anatomy, physiology and biomechanics to enable evaluation of normal and abnormal function 2. Critically evaluate knowledge informing pathology, pathogenesis and pain mechanisms underlying mechanical dysfunction of the NMS system 3. Integrate and apply knowledge of examination procedures and differential diagnosis in the assessment of NMS dysfunction 4. Critically apply knowledge and advanced clinical reasoning skills to differentiate dysfunction of the NMS system from non-mechanical dysfunction in other systems 5. Critically apply knowledge of indications, contraindications, precautions and effects to inform best practice in the management of NMS dysfunction
Examples of learning strategies that can be used to address learning outcomes: ✓ Problem based learning ✓ Lectures ✓ Student seminar presentations
Examples of assessment strategies that can be used to assess learning outcomes: ✓ Critical seminar presentation of a case analysis ✓ Reflective analysis ✓ Clinical examination of patient

8 .3 Dimension 3

Dimension 3 **Demonstration of critical use of a comprehensive knowledge base of the clinical sciences in the speciality of OMT**
By the end of the programme of study, the successful student will be able to 1. Critically apply knowledge of the clinical sciences (clinical anatomy, physiology, biomechanics and epidemiology) to enable effective assessment of the nature and extent of patients' functional abilities, pain and multidimensional needs in relation to the ICF classification 2. Demonstrate appropriate selection of assessment techniques and tools through understanding of their diagnostic and evaluative qualities (including: reliability, validity, responsiveness and diagnostic accuracy) 3. Critically apply knowledge of effectiveness and risks to inform OMT interventions and accurately predict prognosis with realistic outcomes 4. Integrate and apply knowledge of prognostic, risk and predictive factors of relevant health problems to OMT management decisions to ensure the patient can make informed choices
Examples of learning strategies that can be used to address learning outcomes: ✓ Case analysis ✓ Problem based learning ✓ Student seminar presentations ✓ Online discussion forums with peers with input from a facilitator
Examples of assessment strategies that can be used to assess learning outcomes: ✓ Critical seminar presentation of a case analysis ✓ Reflective analysis ✓ Clinical examination of patient

8 .4 Dimension 4

Dimension 4 **Demonstration of critical use of a comprehensive knowledge base of the behavioural sciences in the speciality of OMT**
By the end of the programme of study, the successful student will be able to 1. Critically apply theory of behaviour and behaviour change to effective OMT assessment and management 2. Work effectively within a biopsychosocial model of OMT practice to inform assessment and management strategies 3. Critically evaluate, through sensitivity to behaviour, the influence of the OMT Physical Therapist's behaviour on a patient's behaviour and vice versa 4. Critically use data from outcome measures to evaluate the clinical behavioural aspects of a patient's presentation
Examples of learning strategies that can be used to address learning outcomes: ✓ Reflective case analysis ✓ Problem based learning ✓ Student seminar presentations ✓ Mentored practice
Examples of assessment strategies that can be used to assess learning outcomes: ✓ Critical analysis of a case study ✓ Clinical examination of patient ✓ Management of returning (follow-up) patient

8 .5 Dimension 5

Dimension 5 **Demonstration of critical use of a comprehensive knowledge base of OMT**
By the end of the programme of study, the successful student will be able to 1. Retrieve, integrate and critically apply current knowledge of the theoretical basis and evidence base of OMT to inform assessment of the NMS system 2. Critically evaluate evidence based diagnostic tests and outcome measures to enable a clinical diagnosis and effective evaluation of OMT management 3. Critically apply current evidence informed theory and knowledge of safe and effective practice of OMT in the assessment and patient-centred management of the NMS system 4. Integrate, apply and evaluate principles of mobilisation, manipulation, motor-learning, exercise physiology, ergonomic strategies, and other modalities as components of multimodal evidence informed OMT Physical Therapy intervention, to optimise a patient's functional ability
Examples of learning strategies that can be used to address learning outcomes: ✓ Case analysis ✓ Student seminar presentations ✓ Discussion and debates ✓ Online discussion forums with peers with input from a facilitator
Examples of assessment strategies that can be used to assess learning outcomes: ✓ Reflective analysis ✓ Clinical examination of patient ✓ Management of returning (follow-up) patient ✓ Essay evaluating evidence informed assessment and/or management

8 .6 Dimension 6

Dimension 6 **Demonstration of critical and an advanced level of *clinical reasoning* skills enabling effective assessment and management of patients with NMS disorders**
By the end of the programme of study, the successful student will be able to 1. Use advanced clinical reasoning to integrate scientific evidence, clinical data and biopsychosocial factors related to the clinical context 2. Critically apply the hypothetico-deductive and pattern recognition *clinical reasoning* processes using the various categories of hypotheses used in OMT, related to diagnosis, treatment and prognosis 3. Critically evaluate and effectively prioritise clinical data collection to ensure reliability and validity of data and quality of clinical reasoning processes 4. Integrate evidence informed practice, reflective practice and metacognition into a collaborative reasoning/clinical decision-making process with the patient, carers and other health professionals to determine management goals, interventions and measurable outcomes
Examples of learning strategies that can be used to address learning outcomes: ✓ Case analysis ✓ Problem based learning ✓ Student seminar presentations ✓ E-learning
Examples of assessment strategies that can be used to assess learning outcomes: ✓ Reflective case analysis ✓ Clinical examination of patient ✓ Management of returning (follow-up) patient ✓ Viva discussion

8 .7 Dimension 7

Dimension 7 **Demonstration of an advanced level of communication skills enabling effective assessment and management of patients with NMS disorders**
By the end of the programme of study, the successful student will be able to 1. Demonstrate empathetic, efficient and effective use of active listening skills, questioning strategies, interpersonal skills and other verbal/non-verbal communication skills to obtain reliable and valid data from the patient, avoiding errors of communication to enable effective OMT patient management 2. Demonstrate efficient and clear written communication, patient record keeping, evidence of informed consent for effective and safe OMT patient management that meets medico-legal requirements 3. Effectively explain the assessment findings and clinical diagnosis to the patient to enable a collaborative, patient-centred discussion of their management options 4. Proficiently using an advanced skill, implement effective management plans by educating patients in appropriate therapeutic rehabilitation exercise programmes, and the promotion of wellness and prevention through the education of patients, carers/care-givers, the public and healthcare professionals
Examples of learning strategies that can be used to address learning outcomes: ✓ Mentored practice ✓ Student seminar presentations ✓ Discussion and debates
Examples of assessment strategies that can be used to assess learning outcomes: ✓ Clinical examination of patient ✓ Management of returning (follow-up) patient

8 .8 Dimension 8

Dimension 8 **Demonstration of an advanced level of practical skills with sensitivity and specificity of handling, enabling effective assessment and management of patients with NMS disorders**
By the end of the programme of study, the successful student will be able to 1. Critically select and use appropriate practical skills and outcome measures to enable collection of high quality clinical data to inform effective clinical reasoning during patient assessment 2. Critically select and use as appropriate, a range of therapeutic OMT interventions including patient education, mobilisation, manipulation and exercise prescription with appropriate consideration of treatment timing, dosage parameters and progression of interventions 3. Apply all practical skills with precision, adapting them when required, to enable safe and effective practice 4. Critically apply a range of other interventions, as appropriate, to enhance patient rehabilitation (e.g. taping)
Examples of learning strategies that can be used to address learning outcomes: ✓ Techniques practice ✓ Mentored practice ✓ Case analysis
Examples of assessment strategies that can be used to assess learning outcomes: ✓ Clinical examination of patient ✓ Management of returning (follow-up) patient ✓ Assessment of techniques

8 .9 Dimension 9

Dimension 9 **Demonstration of a critical understanding and application of the process of research**
By the end of the programme of study, the successful student will be able to 1. Recognise the need for the development of further evidence in OMT practice and the role of research in advancing the body of knowledge in OMT Physical Therapy 2. Critically evaluate common quantitative and qualitative research designs and methods 3. Generate an appropriate research question based on a critical evaluation of current research evidence relevant to OMT practice and NMS dysfunction 4. Systematically address all ethical considerations associated with research involving human subjects 5. Effectively execute a research project* relevant to OMT practice and NMS dysfunction, selecting appropriate data analysis procedures and disseminating the conclusions of the study
Examples of learning strategies that can be used to address learning outcomes: ✓ Lectures ✓ E-learning ✓ Development of research proposal ✓ Execution of research project
Examples of assessment strategies that can be used to assess learning outcomes: ✓ Research proposal ✓ Research article/oral presentation/poster presentation of research project findings

*NOTE
A research project is defined as a process of systematic enquiry that provides new knowledge aimed at understanding the basis and mechanism of NMS dysfunction, or improving the assessment and/or management of NMS dysfunction. The process of systematic enquiry is designed to address a research question. The process may use a range of methodological perspectives and methods including literature review, qualitative, and quantitative approaches to address the research question.

8 .10 Dimension 10

Dimension 10 **Demonstration of clinical expertise and continued professional commitment to the development of OMT practice**
By the end of the programme of study, the successful student will be able to 1. Utilise effective integration of in-depth knowledge, current best practice, patient-centred practice, cognitive and meta-cognitive proficiency within OMT clinical practice 2. Solve problems with accuracy, precision and lateral thinking within all aspects of clinical practice 3. Utilise sound clinical judgement, evaluating benefit and risk, when selecting OMT assessment and treatment techniques appropriate to the patient's changing environment and presentation 4. Critically apply efficient, effective and safe OMT intervention in patients with complex presentations (e.g. multiple inter-related or separate dysfunctions and/or co-morbidities) 5. Produce scholarly contributions to the body of OMT knowledge, skills and measurement of outcomes
Examples of learning strategies that can be used to address learning outcomes: ✓ Case analysis ✓ Student seminar presentations ✓ Discussion and debates ✓ Mentored practice
Examples of assessment strategies that can be used to assess learning outcomes: ✓ Reflective analysis ✓ Clinical examination of patient ✓ Management of returning (follow-up) patient

SECTION 9

ACRONYMS AND SYNONYMS

9 .1 Acronyms

ICF	International Classification of Functioning, Disability and Health
IFOMPT	International Federation of Orthopaedic Manipulative Physical Therapists www.IFOMPT.org
MO	Member Organisation (of IFOMPT)
NMS	Neuromusculoskeletal
OMT	Orthopaedic manipulative therapy/Orthopaedic manual therapy
RIG	Registered Interest Group (of IFOMPT)
WCPT	World Confederation for Physical Therapy www.wcpt.org
WHO	World Health Organisation

9 .2 Synonymous Terms

- Clinical reasoning/clinical decision-making/clinical problem solving/clinical judgement
- Manipulation/Grade V/thrust manipulation thrust/high velocity low amplitude technique (HVLAT)/mobilisation with impulse
- Mobilisation/mobilization
- Patient/client
- Physiotherapist/Physical Therapist
- Physiotherapy/Physical Therapy

SECTION 10

REFERENCES

Bhanji F, Lawrence K, Goldszmidt M, Walton M, Harris K, Creery D, Sherbino J, Ste-Marie L-G, Stang A. (2015) Medical Expert. In: Frank JR, Snell L, Sherbino J, editors. The Draft CanMEDS 2015 Physician competency Framework – Series IV. Ottawa: The Royal College of Physicians and Surgeons of Canada; March.

Dath D, Chan M-K, Anderson G, Burke A, Razack S, Lieff S, Moineau G, Chiu A, Ellison P. (2015) Leader. In: Frank JR, Snell L, Sherbino J, editors. The Draft CanMEDS 2015 Physician competency Framework – Series IV. Ottawa: The Royal College of Physicians and Surgeons of Canada; March.

Ezzat A, Maly M. (2012) Building passion develops meaningful mentoring relationships among Canadian Physiotherapists. Physiotherapy Canada; 64(1);77–85.

Frank JR, Snell L, Sherbino J, editors. (2015) The Draft CanMEDS 2015 Physician competency Framework – Series IV. Ottawa: The Royal College of Physicians and Surgeons of Canada; March.

Haynes RB, Devereaux PJ, Guyatt GH (2002). Physicians' and patients' choices in evidence based practice, British Medical Journal, 324:1350-1351.

Higgs J, Jones M (2000). Clinical reasoning in the Health Professions, 2nd edn, Oxford, Butterworth Heinemann.

IFOMPT (2000). IFOMPT Educational Standards Document.

IFOMPT (2008). IFOMPT Educational Standards Document.

Neville A, Weston W, Martin D, Samson L, Feldman P, Wallace G, Jamoulle O, François J, Lussier M-T, Dojeiji S. (2015) Communicator. In: Frank JR, Snell L, Sherbino J, editors. The Draft CanMEDS 2015 Physician competency Framework – Series IV. Ottawa: The Royal College of Physicians and Surgeons of Canada; March.

Richardson D, Calder L, Dean H, Glover Takahashi S, Lebel P, Maniate J, Martin D, Nasmith L, Newton C, Steinert Y. (2015) Collaborator. In: Frank JR, Snell L, Sherbino J, editors. The Draft CanMEDS 2015 Physician competency Framework – Series IV. Ottawa: The Royal College of Physicians and Surgeons of Canada; March.

Richardson D, Oswald A, Chan M-K, Lang ES, Harvey BJ. (2015) Scholar. In: Frank JR, Snell L, Sherbino J, editors. The Draft CanMEDS 2015 Physician competency Framework – Series IV. Ottawa: The Royal College of Physicians and Surgeons of Canada; March.

Sherbino J, Bonnycastle D, Côté B, Flynn L, Hunter A, Ince- Cushman D, Konkin J, Oandasan I, Regehr G, Richardson D, Zigby J. (2015) Health Advocate. In: Frank JR, Snell L, Sherbino J, editors. The Draft CanMEDS 2015 Physician competency Framework – Series IV. Ottawa: The Royal College of Physicians and Surgeons of Canada; March.

Snell L, Flynn L, Pauls M, Kearney R, Warren A, Sternszus R, Cruess R, Cruess S, Hatala R, Dupré M, Bukowskyj M, Edwards S, Cohen J, Chakravarti A, Nickell L, Wright J. (2015) Professional. In: Frank JR, Snell L, Sherbino J, editors. The Draft CanMEDS 2015 Physician competency Framework – Series IV. Ottawa: The Royal College of Physicians and Surgeons of Canada; March.

World Health Organization (2001*).* International Classification of functioning, disability and health. Geneva: WHO.

SECTION 11

GLOSSARY

The purpose of the glossary is to supplement the meaning of the terminology used within the Standards Document. The purpose is not to set 'in stone' definitions for any of the terms. The intent is to expand on the meaning of words or expressions, to facilitate understanding of the Standards Document and facilitate translation into other languages (including all versions of English).

Each MO has their own internal documents on manual Physical Therapy/Physiotherapy (Orthopaedic Manipulative Therapy - OMT) standards of training and practice and scope of practice. Each MO may need to modify the definition of some IFOMPT Standards Document words or expressions to provide an accurate translation and/or provide an accurate representation of the meaning in their country.

The content of this section has been developed through the use of many international resources including international dictionaries, and in particular existing glossaries from the American Physical Therapy Association and the Canadian Physiotherapy Association as well as using input from MOs and RIGs of IFOMPT. The Glossary and Standards Document have been written in UK English.

Part of the philosophy of IFOMPT is that the following terms are considered to be synonyms i.e. they are deemed to hold the same meaning and are inter-changeable: neuromusculoskeletal rehabilitation, manual therapy and manipulative therapy.
In the IFOMPT constitution, Orthopaedic Manual Therapy, Orthopaedic Manual Physical Therapy/Physiotherapy, Orthopaedic Manipulative Therapy, and Orthopaedic Manipulative Physical Therapy/Physiotherapy are also considered interchangeable terms.

Glossary of Terms

Adaptability	Ability to respond to new/changing information and think 'in action' to modify the approach to assessment or management appropriately.
Adult Learning Theory	A body of knowledge that relates to the theory of teaching and learning as it applies to adults and describes recommended practices to optimise adult learning.
Advanced	Professional behaviours and expertise in clinical knowledge, judgement, level of practice, and total patient/client management/handling (e.g. patient/client education).
Advocacy	The concept of supporting or speaking on behalf of others.
Assessment	Assessment of student performance: the measurement or quantification of a student's performance against criteria. Assessment of the patient/client: examination or evaluation of the patient/client (see Examination).
Best (available) Evidence	Best available evidence draws upon the best research evidence, clinical expertise and patient/client values.
Best Practice	A technique or approach to management that is supported by evidence and clinical reasoning to lead to the best outcome.
Biopsychosocial	A model describing the interaction of the biological, psychosocial and social factors that play a role in the context of a person's health/illness.
Blended Learning	A combination of on line and face to face learning that are combined or blended in coherent, reflective and innovative ways so that learning is enhanced and choice is increased.
Carer	A person who is (usually) unpaid and looks after or supports someone else who needs help with their day-to-day life.
Caregiver	A non-medically trained layperson such as a family member or friend as well as medically trained individuals, such as a physician, nurse, or social worker, and in this context a Physical Therapist/Physiotherapist, who assists in the identification, prevention, or treatment of an illness or disability.
Cervical Artery Dysfunction	Problems within the cervical artery (vertebral artery and internal carotid) of the neck that can present with symptoms similar to cervical spine NMS dysfunction or may present a risk factor to aspects of OMT.
Client(s)	The person, group, community or organisation receiving Physical Therapy/Physiotherapy professional services, products or information. Clients can also include businesses, schools and others to whom Physical Therapists/Physiotherapists offer services.
Clinical Examination	See Examination.
Clinical Mentor	A clinical mentor provides professional advice and direction in the clinical setting through a partnership with the student. The mentor should possess clinical expertise, act as a role model and create a highly supportive learning environment conducive to individual learning and the application of clinical reasoning.
Clinical Physical Diagnosis	Clinical physical diagnosis is based on the medical history and physical examination of the patient/client. It may be supported by imaging and the results of imaging and laboratory tests. The examination includes the subjective examination (history and systems review) and development of possible hypotheses that are tested in the

	physical examination and leads to formation of a clinical physical diagnosis or diagnoses.
Clinical Reasoning	The cognitive processes, or thinking used in the evaluation and management of a patient/client. Clinical reasoning is central to professional autonomy.
Clinical Sciences	Domains of knowledge that are primarily relevant for assessment of the NMS systems and management of recognised NMS dysfunctions. This would include anatomy, physiology, biomechanics, movement science, pathology, pathophysiology, neuroscience, behavioural science and the effect of dysfunction on the aforementioned.
Competence	The capacity to apply judgement and purposeful action to work with patients/clients and carers to achieve and maintain desired health outcomes.
Competency (Competencies)	A cluster of related knowledge, skills and attributes that comprises a major part of the Physical Therapist's/Physiotherapist's role or responsibility and correlates with performance and that can be measured against accepted standards.
Comprehensive	Implying depth and breadth of knowledge. The capacity of grasping or understanding the full sum of the meanings and corresponding implications inherent in a concept.
Conservative Management	Management using means other than surgical procedures.
Contemporary	Current, modern, up-to-date.
Contemporary Healthcare Environment	Includes patient centred care within a biopsychosocial framework.
Contraindication	A clinical indication or finding that a particular examination procedure or treatment intervention is inadvisable/inappropriate as it may produce an adverse reaction and/or cause harm to the patient/client.
Creativity	Inventiveness to develop originality in patient/client assessment and management.
Critical/Criticality	Expressing or involving an analysis of the merits and limitation of literature, reasoning or thinking.
Critical Review	A critique of a topic with respect to the evidence base, including the research methodologies and analyses of the studies reviewed. The review provides a synthesis to identify conflict or agreement in the literature and gaps in the literature.
Curriculum	Articulation of the philosophy, content, learning outcomes, assessment and evaluation of a programme of study.
Diagnosis	The diagnostic process: the integration and evaluation of data obtained during the examination to analyse the patient's/client's condition in terms that will inform the prognosis, the plan of care and intervention strategies. Physical Therapists/Physiotherapists use diagnostic labels that identify the impact of a condition on function at the level of the system (especially the movement system) and at the level of the whole person in order to develop the appropriate 'clinical physical diagnosis' (see above).
Differential Diagnosis	Possible diagnoses that must be considered and systematically evaluated as possibilities in understanding the patient's/client's presentation.

Dimensions (of OMT Practice)	Major functions of performance for OMT Physical Therapists/Physiotherapists.
Direct Contact	This refers to the hours that students have to complete that may be face to face or through electronic platforms e.g. in the practice setting the clinical mentor must include observation of the student assessing and managing patients. Direct contact can be with a single student or more than one student.
Directed Learning	Specific learning tasks for students that teachers/lecturers have identified, structured and may be sequenced that students complete in their own time.
Disability	Impairments, activity limitations and participation restrictions in the context of what an individual can do in their environment.
Disease	A pathological condition or abnormal entity with a characteristic group of signs and symptoms affecting the body with known or unknown aetiology.
Distance Learning	A method of learning where the student and teachers/lecturers are in different locations.
Domain	Category of a construct, for example quality of life that consists of several domains (e.g. pain, physical function and psychological components).
Dysfunction	Disturbance or impairment of function (anatomic or physiologic).
Effective	The benefit of treatment or intervention.
E.G. (e.g.)	For example. This abbreviation is used before a list that is intended to be representative of a preceding statement but is not to be assumed to be exhaustive or limiting.
E-Learning	Learning conducted via electronic media, typically the internet, can include different types of technology such as audio/video, computer-based learning, web based learning, satellite TV, online discussion forums, blogs, wikis.
End-Feel	The sensations imparted to the hand at the limit of possible range, when the examiner tests passive movement at a joint (e.g. capsular, soft tissue approximation, empty, bony block).
End Range	Movement of a joint complex that occurs towards the end of the available range, with or without pain. That range can be normal, any degree of excessive mobility (hypermobility) or, oppositely, any degree of limited mobility (hypomobility) in relation to the average mobility.
Episode of Physical Therapy/ Physiotherapy Care	All Physical Therapy/Physiotherapy services that are 1) provided by a Physical Therapist/Physiotherapist, 2) provided in an unbroken sequence (perhaps debatable), and 3) related to the Physical Therapy/Physiotherapy intervention for a given condition or problem or related to a request from the patient/client, family, or other health care providers.
Evaluation	The dynamic process of determining the result, impact or effectiveness of Physical Therapy/Physiotherapy management in relation to the patient's/client's needs, goals and outcomes established with the patient/client.
Evidence-Based Practice (Medicine)	Evidence-based practice is the integration of best research evidence with clinical expertise and patient/client values. Evidence-based practice has a theoretical body of knowledge, and uses the best available scientific evidence in clinical decision-

	making and standardised outcome measures to evaluate the Physical Therapy/Physiotherapy service/management provided.
Evidence-Enhanced Practice	Integrating individual clinical expertise with the best available external clinical evidence from systematic research. Individual clinical expertise incorporates the proficiency and judgement that individual clinicians acquire through clinical experience and clinical practice.
Evidence Informed Practice	Ensuring that practice is guided by the best research and information available.
Examination	A comprehensive and specific testing process (in this situation performed by a Physical Therapist/Physiotherapist) that leads to a physical clinical diagnosis or, as appropriate, to a referral to another Physical Therapist/Physiotherapist or other health care practitioner. The examination has three components: the patient/client history, planning the physical examination, and the physical examination. Examination also includes examination of student performance (see Assessment).
Expected Outcomes	Expected outcomes are the intended results of patient/client management, based on the changes of impairments/functional limitations, and disabilities and the changes in health, wellness, and fitness needs that are expected as a result of implementing the plan of care. The expected outcomes in the plan should be measurable and time limited.
Functional Limitation	A restriction of the ability to perform a physical action, activity, or task in a typically expected, efficient, or competent manner.
Functional Rehabilitation	Restoration and optimisation of functioning of the NMS system in relevant movement patterns and postures using exercises and/or training.
Grades of Joint Mobilisation	Joint mobilisation means mobilising the joints of the spine or periphery. There are a range of grading systems for mobilisations e.g. Maitland grades of mobilisation are on a 4-point scale, Kaltenborn grades of mobilisation are on a 3-point scale. The grading system is based on how much joint play is available.
Health Care System	The organisation of healthcare in a particular country.
History	A systematic gathering of data from both the past and the present related to why the patient/client is seeking services of the Physical Therapist/Physiotherapist. The data that are obtained (e.g. through interview, through review of the patient/client record, or from other sources) include demographic information, social history, employment and work (job/school/play), growth and development, living environments, general health status, social and health habits (past and current), family history, medical/surgical history, current conditions or chief complaints, functional status and activity level, medications and other clinical tests. While taking the history, the Physical Therapist/Physiotherapist also identifies needs for health restoration and prevention and identifies co-existing health problems that may have implications for intervention and prognosis.
Holistic	Consideration of the 'whole'. A comprehensive consideration of all aspects of the patient/client and their problem.
Hypothetico-Deductive Reasoning	Involves the generation of hypotheses based on clinical data and knowledge, and testing of these hypotheses through further inquiry.
ICF	International Classification of Functioning, Disability and Health. The ICF is World Health Organization's framework for measuring health and disability at both individual and population levels. www.who.int/classifications/icf.

I.E. (i.e.)	Translated means ‘that is’. This abbreviation is used in the context of "that is (to say)" or "that means" or "in other words".
Impairment	A loss or abnormality of physiological, psychological, or anatomical structure or function.
Independent Study	A process, a method and a philosophy of education in which a student acquires knowledge by his or her own efforts and develops the ability for inquiry and critical evaluation in order to meet learning outcomes. It recognises choice in meeting those outcomes and places the responsibility on the student.
Indirect Contact	Hours that are not under the supervision of the clinical mentor and can include hours spent with fellow OMT students, other clinical specialists, independent study (e.g. research, preparation of case study).
Individual Learning Needs	The ability of a Physical Therapist/Physiotherapist to be able to reflect on their current level of knowledge, skills and attributes and identify gaps that need to be addressed with further learning.
Informed Consent	The voluntary and revocable agreement of a competent individual to participate in a therapeutic or research procedure, based on an adequate understanding of its nature, purpose and implication.
Innovative	Creative and contemporary.
Interprofessional	The provision of comprehensive care to patients/clients by multiple health care professionals who work collaboratively to deliver the best quality of care in all health care settings. Interprofessional care encompasses partnership, collaboration and a multi-disciplinary approach to enhancing outcomes.
Intervention	The purposeful interaction of the Physical Therapist/Physiotherapist with the patient/client, and when appropriate, with other individuals involved in patient/client care such as using various Physical Therapy/Physiotherapy procedures and techniques to produce changes in the condition.
Joint Complex	The entire articular joint and all associated soft tissues related to the function of that joint.
Learning	The acquisition of knowledge or skills through study, experience, or being taught. See also directed learning, distance learning, blended learning, problem based learning.
Management (of patient/client)	The complete Physical Therapy/Physiotherapy present and future care of the patient/client with regards to the initial assessment and subsequent assessments and treatments as well as advice and exercise for their condition.
Management Plan	A systematic consideration of short and long term goals for management of the individual patient/client.
Manipulation	A passive, high velocity, low amplitude thrust applied to a joint complex within its anatomical limit* with the intent to restore optimal motion, function, and/or to reduce pain. *anatomical limit: Active and passive motion occurs within the range of motion of the joint complex and not beyond the joint’s anatomic limit.
Manual Therapy Techniques	Skilled hand movements intended to optimise any or all of the following effects: improve tissue extensibility; increase range of motion; mobilise or manipulate soft tissues and joints; induce relaxation; change muscle function; stabilise the joint complex; modulate pain; reduce soft tissue swelling, inflammation or movement restriction.

Mastery	Proficiency and expertise to enable efficient and effective practice.
Medical Sciences	Domains of knowledge centred around medical investigation and management.
Medical Model	A health model that views the impairment or health condition as the 'problem'. The focus is therefore on 'fixing' or 'curing' the individual who has the problem.
Mentored Clinical Practice	The undertaking of clinical practice under the direct supervision of a clinical mentor with the specific goal of learning and improving clinical skills. Learning can result from a constructive evaluation of the student's clinical practice by the mentor and by observation and discussion of a student's practice. The process usually involves substantial and regular discussion involving ongoing feedback from the mentor regarding clinical reasoning as well as manual skills.
Metacognition	Being aware of one's cognitive processes and exerting control over these processes, and the cognitive skills that are necessary for the management of knowledge and other cognitive skills. In other words, metacognition involves thinking about your thinking and the factors that limit this thinking.
Mobilisation	A manual therapy technique comprising a continuum of skilled passive movements that are applied at varying speeds and amplitudes to joints, muscles or nerves with the intent to restore optimal motion, function, and/or to reduce pain.
Mobility of the Nervous System	The ability of the nervous system to adapt to tensile loads including, 1) gross movements of elements of the nervous system in relation to anatomic interfaces with other structures, and 2) intraneural movements consisting of neural tissue elements moving in relation to the connective tissue components of nerve tissue (e.g. endoneurium, perineurium).
Motion Barrier	An obstruction to motion; a factor that tends to restrict free motion.
Motor Control	The ability of the central nervous system to control or direct the neuromotor system in purposeful movement and postural adjustments by selective allocation of muscle tension across appropriate joint segments.
Motor Learning	A set of processes associated with practice or experience leading to relatively permanent changes in the capability for producing skilled action.
Motor Deficit	A lack or deficiency of normal motor function (motor control and motor function) that may be the result of pathology or other dysfunctions. Weakness, paralysis, abnormal movement patterns, abnormal timing, coordination, clumsiness, involuntary movements, or abnormal postures may be manifestations of impaired motor function (motor control and motor learning).
Motor Function (Motor Control and Motor Learning)	The ability to learn or demonstrate the skilful and efficient assumption, maintenance, modification, and control of voluntary postures and movement patterns.
Movement Sciences	Domains of knowledge that predominantly deal with the analysis, function and training of the NMS system.
Multimodal	Management utilising more than one modality of treatment/intervention.
Multi-Professional Team/Multi-Disciplinary Team	See interprofessional team

Needling	Introduction and withdrawal of needles (filaments), lifting and thrusting, twirling, and combinations of the three basic movements used by Physical Therapists/Physiotherapists trained appropriately in its use.
Neuromusculoskeletal (NMS)	The complex interactions between the skeletal, muscular and neural systems responsible for co-ordination of normal movement and function.
Neuromusculoskeletal Dysfunction	Problematic abnormal functioning of the NMS system.
Outcome Measures	Criteria for evaluation of the progress of management.
Pain	An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.
Pain/Range/ Resistance/Limit of Range	The perceived limitation due to pain/resistance/spasm to passive range of motion and their inter-relationships through range and at end range.
Patients/Clients	Individuals who are the recipients of Physical Therapy/Physiotherapy examination, evaluation, diagnosis, prognosis, and intervention and who have a disease, dysfunction, condition, impairment, functional limitation, or disability for which they are seeking treatment.
Patient-Centred/Client-Centred	Refers to an approach to clinical practice in which the patient/client is at the centre of all clinical decision-making and in which their understandings, beliefs and feelings are recognised within the therapeutic relationship with the Physical Therapist/Physiotherapist. The patient/client is recognised as an equal partner in their management and is encouraged to actively participate in their treatment and management.
Patient/Client Values	Patient/Client values are the unique preferences, concerns and expectations that each patient/client brings to a clinical encounter and which must be integrated into clinical decisions if they are to serve the patient/client.
Pattern Recognition	Direct or intuitive automatic retrieval of information from a well-structured knowledge base with reference to the recognition of a clinical pattern of symptoms and signs.
Peer Assessment	Peer assessment is a process whereby a student's peers mark a student's assignments, tests or practical assessments based on specific criteria.
Physical Therapist/ Physiotherapist	Licensed/registered health care professionals who diagnose and manage movement dysfunction and enhance physical and functional status in all age populations.
Physical Therapy/ Physiotherapy	The management of physical dysfunction or injury intended to restore or facilitate normal/optimal function and development of wellness.
Scope of Practice	Defined by the Physical Therapist's/Physiotherapist's regulatory body.
Planning	Statements that specify the anticipated goals and expected outcomes, predicted level of optimal improvement, specific physical examinations and interventions to be used and proposed frequency and duration of the interventions that are required to reach the goals and outcomes.
Pre-Clinical Instruction	Instruction in the theoretical and practical skills prior to utilising them in the clinical setting.
Precautions	A clinical indication or finding that a particular examination procedure or treatment intervention has the potential to produce an adverse reaction and/or cause

	potential harm to the patient/client. An action taken in advance can protect against possible harm.
Prevention	Activities that are directed toward I) achieving and restoring optimal functional capacity, 2) minimising impairments, functional limitations, and disabilities, 3) maintaining health (thereby preventing further deterioration or future illness), 4) creating appropriate environmental adaptations to enhance independent function. *Primary prevention*: Prevention of disease in a susceptible or potentially susceptible population through specific measures such as general health promotion efforts. *Secondary prevention*: Efforts to decrease the duration of illness, severity of diseases, and sequelae through early diagnosis and prompt intervention. *Tertiary prevention*: Efforts to limit the degree of disability and promote rehabilitation and restoration of function in patients/clients with chronic and irreversible diseases.
Primary Care	The provision of integrated, accessible health care services by clinicians, in this context this refers to Physical therapists/Physiotherapists who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients/clients and practicing within the context of family and community and outside the hospital setting.
Prioritise	Rating and justifying the importance of one aspect over another.
Postgraduate Education	University based education received/undertaken after successful completion of an entry level programme in Physical Therapy/Physiotherapy.
Post-Professional Education	Education received after receiving a professional degree i.e. Physical Therapy/Physiotherapy degree.
Posture	The alignment and positioning of the body in relation to gravity, centre of mass and base of support.
Problem Based Learning	A student-centred approach to learning whereby a student is presented with a scenario or patient problem that they investigate in order to learn about a topic or subject.
Prognosis	The determination by the Physical Therapist/Physiotherapist of the predicted optimal level of improvement in function and the amount of time needed to reach that level.
Qualitative	Qualitative research is often said to be *naturalistic*. That is, its goal is to understand behaviour in a natural setting. Two other goals attributed to qualitative research are understanding a phenomenon from the perspective of the research participant and understanding the meanings people give to their experience.
Quantitative	Research methods that reduce phenomenon and related data to measurable units that may be subject to statistical analysis.
Reflective Practice	The capacity to reflect on action so as to engage in a process of continuous learning.
Research Evidence	(Best) Research Evidence: clinically relevant research, often from the basic sciences of medicine, but especially from patient-centred/client-centred clinical research into the accuracy and precision of diagnostic tests (including the clinical examination), the power of prognostic markers, and the efficacy and safety of therapeutic, rehabilitative and preventative regimes. New evidence from clinical research both invalidates previously accepted diagnostic tests and treatments and replaces them with new ones that are more powerful, more accurate, more efficacious, and safer.

Response	A physical reaction or answer of the patient/client to a position, movement and or test procedure.
Risk Factors	A feature that increases a person's chance of experiencing a problem.
Scope of Practice	See also Physical Therapy/Physiotherapy Scope of Practice.
Screen/Screening	A process to determine the need for further examination or consultation by a Physical Therapist/Physiotherapist or for referral to another health care professional. Questions used in the patient/client history or physical tests may be performed to determine the indications or contraindications for subsequent assessment or treatment interventions.
Self-reflection	Careful thought about one's own behaviour, actions and beliefs in order to further develop understanding or competence.
Sensitivity	1) *In a research context*: The extent to which a test identifies those individuals who have the condition i.e. true positives. 2) *In a skills/performance context*: The degree of sensitiveness; reacting quickly to slight changes.
Specialist	A practitioner recognised as working at a high level of practice demonstrating expertise. The word has different meanings in different countries.
Specialisation	A term describing the formal recognition reserved for, in this case Physical Therapy/Physiotherapy, individuals who successfully complete an approved programme/process that acknowledges the possession of a higher standard of competence within a recognised area of practice.
Special Tests	These are assessment procedures that are not performed routinely. They are additional tests that may be indicated based on clinical reasoning and findings from the examination of specific biomedical diagnoses and/or decided upon by clinical reasoning.
Specificity	1) *In a research context*: The extent to which a test identifies those who do not have the condition i.e. true negatives. 2) *In a skills/performance context*: Preciseness or having a special effect.
Standards	Means by which individuals are compared and judged. The level, competence or delivery of services that should be achieved in practice.
Symptoms	Any subjective evidence of disease or of a patient's/client's condition.
Strategies	Means of achieving aims.
Therapeutic Exercise	A form of individualised patient/client exercise prescription by the Physical Therapist/Physiotherapist with the intent to optimise the function and health of the NMS system.
Theoretical	Based on theory.
Thrust (Technique)	The word thrust is interchangeable with the word manipulation or manipulative. At times it is expressed as a manipulative thrust - implying the skilled force (energy) imparted to the patient/client by the clinician during the act of a manipulative technique.

Tests and Measures	Specific standardised methods and techniques used to gather data about the patient/client after the history (subjective assessment) and systems review have been performed.
Traction	The therapeutic use of manual or mechanical tension created by a pulling force to produce a combination of distraction and gliding to relieve pain and increase range of movement and improve function (i.e. achieve the desired effects of manual therapy techniques).
Treatment	The management/handling of a patient/client by the sum of all interventions provided by the Physical Therapist/Physiotherapist to a patient/client during an episode of care.
Vertebro-Basilar Insufficiency	A clinical state in which there is inadequate blood flow through the vertebro-basilar arterial system resulting in hindbrain hypo-perfusion, potentially stroke and death. Signs and symptoms of vertebro-basilar insufficiency are normally a contraindication to manual therapy of the cervical spine.
Viscera	Relates to internal organs and is an important aspect of differential diagnosis when assessing pain and other symptoms to determine the origin of the dysfunction.
Wellness	Concepts that embrace positive health behaviours that promotes a state of physical and mental health and fitness.

SECTION 12

IMPLEMENTATION OF STANDARDS INTO EXISTING AND DEVELOPING PROGRAMMES

Existing programmes within MOs

MOs have three years to implement the new standards across all educational programmes (needs to be in place by the start of the 2019 academic year i.e. September 2019).

Developing programmes within RIGs

Submission of new programmes for review by the Standards Committee against the IFOMPT Educational Standards after July 2016 are required to reflect the current 2016 Standards.

Note:
The mapping document will assist these processes of implementation (Appendix E)

APPENDIX A

IFOMPT EDUCATIONAL STANDARDS: A HISTORICAL PERSPECTIVE

The Educational Standards (Standards) of IFOMPT extend the level of basic training received in OMT Physical Therapy undertaken in Physical Therapy training programmes so that OMT Physical Therapists attain an advanced standard of patient care.

Key stages in the development of IFOMPT educational standards:

1974 IFOMT formed as a subgroup of the World Confederation for Physical Therapy
1975 Initial draft of Standards document developed and signed by Physical Therapists F. Kaltenborn, G. Grieve, D. Lamb and B. Edwards, June 30th 1975, Waynesburg, Pennsylvania, USA
1977 Standards Document presented at the IFOMT meeting in Vail, USA
1978 Standards Document ratification at the WCPT meeting in Israel
1997 Standards Committee charged with reviewing the Standards Document, IFOMT General Meeting, Norway
2000 Standards Document revision ratified in Perth, Australia
2001 Agreed plan to review the Standards Document every 6 years, with feedback from MO and external assessors. IFOMT Strategic Meeting, Antwerp, Belgium
2004 Addition to the Standards Document of "Part B, International Monitoring Document" following acceptance of the document at the General Meeting, Cape Town, South Africa
2005 Questionnaires to MOs for feedback on the Standards Document to commence the 6-yearly review process
2008 Educational Standards Document revision presented at IFOMT meeting, Rotterdam, The Netherlands
2016 Educational Standards Document revision presented at IFOMPT meeting, Glasgow, United Kingdom

The Standards Document continues to be used as an active guide in the membership process and is easily available on the IFOMPT web site. www.ifompt.org
The document has changed from being a 3-page outline of manual therapy approaches to a much longer and comprehensive document describing educational standards, scope of OMT practice, guidelines for formulating programmes and methods for measuring competency.
The following is taken verbatim from "Submission of Standards Committee", June 30th 1975, Pennsylvania, USA:

International Federation of Manipulative Therapists
Waynesburg, Pennsylvania

June 30 1975

Submission of Standards Committee

The following represents the submission of the Standards Committee of IFOMT of the theoretical, practical, and clinical material which should be considered as a desirable minimum in training manual/manipulative therapists. This presentation is forwarded to the executive for consideration prior to onward transmission to the voting members the Federation.

All members of the committee would like to express thanks to Mr. Gregory Grieve for the material enclosed under the theoretical section; this comprehensive compilation is entirely his work.

The submission is presented under the following headings:

1. Definition of Name, Standards, and Ethics
2. Theoretical outline with annotated bibliography
3. Practical outline including comments on examinations

It is hoped that this may be used as a guideline to assist in setting up new courses of training or improve existing courses.

The Standards Committee feel that fulltime training with supervised clinical work is vital in the long-term development of successful manual therapy training. Training based on attendance

on a number of short courses must only be considered as an interim measure although the committee realize that many therapists are receiving clinical instruction in the employing departments.

The Standards Committee recognize that a considerable variety of techniques exist which have to this time been considered belonging to various schools of thought, e.g. Mennell, Norwegian system, South Australian system, British system, osteopathic, chiropractic, etc. Presently considerable diffusion of ideas is taking place and modifications of all "systems" is occurring.

With this in mind the Standards Committee feel that agreement can be reached if guidelines are produced stating broad principles. It is considered desirable however that training systems in various countries make themselves aware of the work of all contributors in this field.
As stated in the "Definition of Name" actual mobilisation techniques are an addition to the available treatments appropriate for neuromusculokeletal dysfunctions. This section the presentation will be concerned with principles related to the application of passive movement only, but it in no way infers exclusion of other appropriate techniques.
The Standards Committee feel that the following guidelines should be followed:

1. Thorough understanding of basic examinative techniques for determining neuromusculokeletal dysfunctions e.g. comprehensive examination for neck and upper limb.
2. Palpatory skills must be developed so that:
    a. Reactivity of the local problem can be determined from point of view of recognising muscle spasm
    b. Applying pressures, gliding and distraction procedures to articular structures to determine the pain/range/resistance relationship e.g. "end feel".
3. Techniques for passive testing of specific joint movement should be included so that hypermobility, hypomobility and possible positional faults may be recognized.
4. The meaning of graded passive movement should be included so that the appropriate degree of movement can be applied to the joint related to pain/limitation/resistance relationship.
5. Techniques of semi specific mobilisation. The teaching of passive movement techniques for therapeutic purposes could conveniently follow the plan below. Learning techniques on peripheral joints prior to vertebral joints would seem a logical sequence
    a. semi specific mobilisation to enable areas of the spine, e.g. thoracocervical or peripheral joint complexes e.g. radiocarpal joint to be moved in appropriate directions.
    b. This could be followed by specific mobilisation techniques so that movement in a required direction may be applied to a dysfunctional mobile segment without applying unwanted stress to neighbouring areas. This would include the principles of so called locking related to physiological combinations of movement.

Manipulation should not be taught until a thorough understanding of the principles of mobilisation has been achieved and competence in application of specific mobilisation obtained.

The committee feel that supervised clinical work is an essential part of the training scheme and that the value of training is considerably reduced without such clinical work.

Proof of competence by examination is essential, Such examination should be based on knowledge of broad principles set out previously:

1. Broad, basic science principles underlying use of manual therapy
2. Principles directly related to mobilisation therapy, e.g. recognition of Xray features, contraindications to manipulation, etc.
3. Examination of a patient or patients
4. Demonstration of techniques both spinal and peripheral on a model &/or patients
5. Presentation of examples of case work performed by therapist
6. Demonstration of knowledge obtained from wide reading of available literature

Respectfully submitted,

F. Kaltenborn, G. Grieve, B. Edwards, D.W. Lamb

OFFICERS. RICHARD E. ERHARD, PRESIDENT,
PETER EDGELOW, SECRETARY TREASURER,
EXECUTIVE MEMBERS: NEW ZEALAND - NORWAY - UNITED KINGDOM
STANDARDS COMMITTEE: FREDERICK M. KALTENBORN, CHAIRMAN, GREGORY P. GRIEVE, CO-CHAIRMAN – THEORY, DAVID LAMB, BRIAN EDWARDS

Excerpts from Standards Document (1996)

The following section is taken from the IFOMT Educational Standards (1996, page 20) with minor clarification in italics.

An IFOMT educational curriculum referred to as the "Standards" has been effective since ratification in Israel in 1979. Since that time, the document has been reviewed and modified in keeping with the growth and development of OMT.

The original educational standards of IFOMT were the result of deliberations of the standards committee which comprised of *(the following physiotherapists):*
Mr. Freddy Kaltenborn (Norway) – Chairman, Mr. Brian Edwards (Australia), Mr. Gregory P. Grieve (U K), Mr. David W. Lamb (Canada)
At that time the committee acknowledged the particular contribution made in formulating:
(i) The theoretical syllabus which was based on the presentation (with minor alterations) by Mr. G.P. Grieve. This included an annotated bibliography. This was based on the UK system.
(ii) The practical syllabus which was based on the presentation of Mr. B. Edwards. This was based on the Australian system.

The original standards committee was replaced by the educational consultants which comprised: Mr. David W. Lamb (Canada) – chair, Mr. Freddy Kaltenborn (Norway) Mr. Geoffrey D. Maitland (Australia). This group modified the original standards in minor ways largely to clarify and emphasize meaning.

From the outset, there was recognition of the considerable variety of approaches both in concept and technique existing in countries practicing orthopaedic manipulative (manual) therapy – OMT. These were, variously named after the originator, the country of origin, or professional organization i.e. Cyriax, Menriell, Norwegian system, South Australian system, osteopathic, chiropractic etc. A considerable amount of common ground existed and diffusion had occurred through courses and the reading of a variety of technical journals devoted to OMT produced by the various groups.

The standards committee felt considerable agreement could be reached if the guidelines stated broad principles and avoided a partisan approach. It was considered essential that various countries' OMT groups make themselves aware of the work of all contributors in the field. Recognizing the importance of the different approaches reflects the depth of experience and increasing body of knowledge in manual therapy.

At the IFOMT meeting in Gran Canaria Spain, 1990, the IFOMT Membership Committee was formed. This internationally representative committee was given a mandate to review the educational standards for membership and to review and process applications for membership of IFOMT.

This committee has continued the process of updating the IFOMT Standards and reformatted the educational standards document upholding the principles of IFOMT standards of education and training.

Members of the Education Standards Committee (1996): G. Jull (chair); D. Kettle (UK), A Leung (Hong Kong), D. Wallin (Sweden), J. Pool (The Netherlands), A. Porter Hoke (US)

APPENDIX B

GUIDELINES FOR FORMULATING ORTHOPAEDIC MANIPULATIVE THERAPY (OMT) PROGRAMMES

It is recognised that different countries have varying approaches to the development and delivery of OMT programmes depending on their educational systems, and these differences are valued by IFOMPT. However, in order to ensure that the IFOMPT standards are met and the learning outcomes are attained the following guidelines are provided to assist countries when formulating OMT programmes.

All programmes should be underpinned with sound clinical reasoning, evidence of reflective practices, critical evaluation of the research evidence, and the learning and application of higher level manual therapy skills, integrated with the principles of adult learning theory. All programmes should incorporate clinical mentorship as this is vital for the long-term development of OMT knowledge and skills. The opportunity for students to attend programmes in a higher education environment is the ideal. However alternative pathways can be offered provided countries can demonstrate that their programmes meet the IFOMPT Standards. Countries wishing to develop programmes are obliged to seek advice from the Standards Committee at the early stages of the development of the programme.

This Standards Document provides a framework for establishing an OMT curriculum at Post Graduate level. Evaluation of a curriculum submitted to IFOMPT for approval or being evaluated as continuing to meet IFOMPT Standards through International Monitoring necessitates mapping of the curriculum to the learning outcomes detailed in this document to inform theoretical and clinical learning outcomes. In addition, curricula must demonstrate how the learning outcomes are assessed as being achieved. The detailing of dimensions and learning outcomes in this document will also enable the processes of self-evaluation and self-monitoring of ongoing standards of curricula by MOs.

Theoretical Knowledge and Practical Skills

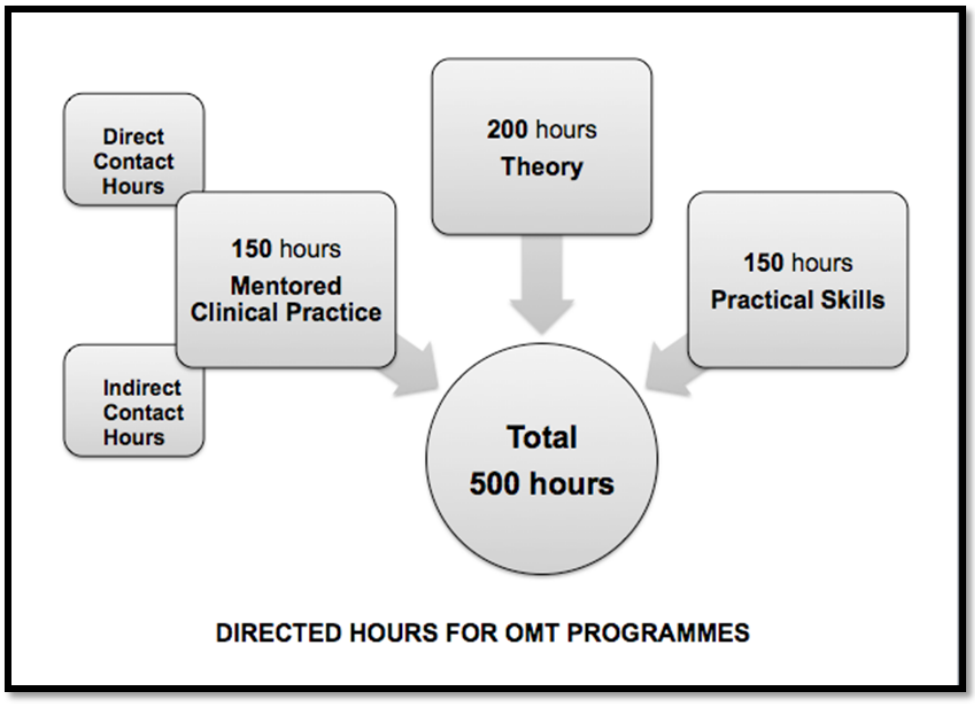
Comprehensive theoretical knowledge is required in the biomedical, clinical and behavioural sciences, and the specialty of OMT for the development of advanced level skills in clinical physical diagnosis and clinical management. Programmes should include a variety of teaching approaches and learning strategies and this may include elements of online and electronic learning (e-learning) activities, in addition to face to face activities. Learning and teaching methods that promote and extend students' skills in assessment and management of patients are required. This includes advanced handling skills, clinical reasoning, differential diagnosis, critical evaluation, problem based learning, problem solving, reflection and narrative activities as these skills will enhance the students' performance in clinical practice. Theoretical knowledge and learning of practical skills can be effectively integrated. This assists students' understanding of the relevance of the theory and helps them to integrate and apply it to their clinical practice.

The examination and management skills developed by students should demonstrate a holistic approach reflecting their understanding of the inter-related nature of the NMS systems in NMS dysfunctions and the need to rehabilitate the whole patient for functional recovery. The students should demonstrate understanding of the biopsychosocial model and the WHO ICF framework through their holistic approach.

The learning of manual skills in OMT must also emphasise the development of students' communication skills to prepare them for clinical practice. The principles and practices of evidence informed procedures and measurement of outcomes must also be embodied in the programme of learning.

Examination skills must be developed so that students can display competency in both the patient history and physical examination, and throughout the management and re-evaluation of the articular, neural, muscular systems, and other systems as appropriate.

Figure 5: Minimum required Directed Hours for OMT programmes



It is expected that OMT educational programmes will contain a **minimum** of 200 directed hours of theoretical learning and a **minimum** of 150 directed hours would be spent in the learning of practical skills in OMT. These hours do not equate to a minimum competency level but reflect the number of directed learning hours normally required to encompass the curriculum and achieve the defined learning outcomes based upon the experience of IFOMPT to date.

Directed Hours

These hours need to be timetabled and tutor-led/facilitated and can include a variety of teaching/learning strategies such as directed learning and problem-based learning. These hours are however distinct from that of independent student initiated, student directed or self-directed hours.

Independent Hours

These hours are non-timetabled student initiated, student directed or self-directed hours and are outside of the 500 total directed learning hours.

It is recognised that the nature of the directed learning hours will vary depending on the different contexts of education in different MOs of IFOMPT. In addition to these directed learning hours, it is anticipated that students will undertake Self Directed Practice in all areas of the defined learning outcomes.

The directed learning hours can be delivered through a variety of teaching and learning strategies to enable students to achieve the defined learning outcomes, including:

- Problem based learning
- Lectures
- Student seminar presentations
- Discussion and debates

- Case analysis
- Patient demonstrations/analysis
- Supervised techniques practice
- Online discussion forums with peers with input from a facilitator
- E-learning tools – videos, online audio power point presentations, etc.
- Document sharing and formulation e.g. Google docs
- BLOGs, Wikies
- etc.

Mentored Clinical Practice

Mentored clinical practice (MCP) is an essential part of the OMT educational programme. It provides a mechanism for promoting deeper learning and developing a broader knowledge base and skills required for higher level clinical reasoning and critical thinking (Ezzat and Maly, 2012). In a qualitative study, Ezzat and Maly (2012) identified several strategies for promoting learning and providing a practical approach to MCP:

Establishing expectations – defining the goals of each participant, organization and structure of sessions and the teaching and learning strategies/styles
Knowledge translation – promoting the student's ability to transfer academic learning into clinical practice
Encouragement of Reflective thinking – of both the mentor and mentee
Mentorship is a critical tool for advancing patient care
Identification of compatible learning styles

Mentored clinical practice as required in the IFOMPT Educational Standards is the examination and management of patients by the student under the mentorship of an OMT Clinical Mentor who is a member of the MO of IFOMPT and approved by the MO as being eligible to mentor students. A variety of models of clinical mentorship may be used depending upon the particular issues and resources within an individual country.

The criteria for eligibility to mentor students should be clearly outlined by individual educational programmes and MOs. There should be processes and resources in place to support and facilitate the MCP experience for both the mentor and the student. Students must have the verbal communication and language skills to communicate effectively with the patient to maximise the opportunities to develop clinical reasoning skills.

It is required that a minimum of 150 hours of MCP should normally be undertaken by students. This is ideally distributed throughout the course of theoretical and practical skills learning to give students the maximum opportunity to develop their clinical reasoning and clinical skills. These hours do not equate to a minimum competency level but reflect the number of hours normally required to encompass the curriculum and achieve the defined learning outcomes. Most learning outcomes are important to the MCP experience. It is recognised that the nature of the MCP will vary depending upon the educational context of the individual MO.

A variety of models and tools may be used as part of the MCP experience depending upon the particular issues and resources within an individual country to achieve the required clinical mentorship hours. In addition to face-to-face mentorship, e-mentoring provides a viable option for geographical concerns or lack of available mentors etc.

The required 150 hours of MCP can consist of a combination of direct and indirect contact hours:

Direct contact hours with the Clinical Mentor must include observation of the student assessing and managing patients in the practice setting. Direct contact can be achieved through electronic resources. Direct contact can be with a single or >1 student, for example practical skill sessions with >1 student working together with the mentor can be a valuable strategy.

Indirect contact hours can include hours that are not under the direct supervision of the Clinical mentor and can include hours spent with fellow OMT students, other clinical specialists, independent study e.g. research, preparation of case study.

Examples of Mentored Clinical Practice

- **Direct Contact Hours:**
    - Case analysis with mentor
    - Observation by mentor of student assessing and treating a patient
    - Observation of patient follow-up treatments and reassessment
    - Supervised techniques practice with reassessment
    - Mock scenarios/mock practical exams prepared and supervised by mentors
    - Day course with evaluation and treatment of patients with mentors
    - E-mentoring – Online discussion/debate forums with peers with facilitation from a mentor; instant messaging and chat; video conferencing (Skype, face time); blogs; wikis, document sharing (Google docs)
- **Indirect Contact Hours**:
    - Problem-solving and case analysis with peers
    - Presentation of a case study
    - Peer/mentorship coaching from a more experienced OMT student
    - Research
    - Practical technique sessions with peers
    - Assisting in instruction of junior OMT students
    - E-mentoring – online discussion/debate forums with peers; instant messaging and chat with peers; video conferencing with peers (Skype, face time); blogs; wikis; document sharing (Google docs) with peers

Evaluation of Performance

Proof of competency by formal evaluation is mandatory and is based on the achievement of all of the dimensions and learning outcomes set out in the Standards Document. It is recommended that formal evaluation of students be undertaken through use of a variety of assessment tools, including:

- **Theoretical assessments**
    - For example, written examination, critical analysis of a case study, seminar presentation, reflective analysis etc.
- **Clinical examination and treatment of patien**ts
    - For example, oral, practical, examination of a patient, re-evaluation and management of a returning patient etc.
- **Practical examinations of manual skills** incorporating problem solving and clinical reasoning
    - For example, practical skills examination, Objective Structured Clinical Examination (OSCE) etc.

The marking criteria for the assessment of a student's performance during the MCP of an OMT programme should be clearly outlined, and be consistent, transparent and appropriate for the learning outcomes being evaluated. The marking criteria should be clearly outlined by individual educational programmes for students. Formative assessment is essential to MCP and feedback is the central component. Mechanisms should be in place to provide students with individualised and structured feedback.

Reference

Ezzat A, Maly M. Building passion develops meaningful mentoring relationships among Canadian Physiotherapists. Physiotherapy Canada 2012; 64(1);77–85.

APPENDIX C

GUIDELINES FOR COUNTRIES WITH LEGISLATION TO LIMIT THE PRACTICE OF MANIPULATION

The scope of practice of the OMT Physical Therapist includes the full range of OMT treatment procedures, including specific mobilisation and manipulation techniques applied to peripheral and spinal joints. Like all Physical Therapy assessment and treatment procedures, application of mobilisation and manipulation should be evidence informed and should follow a thorough examination including all indicated screening/safety tests for the appropriateness of treatment. The patient must have given informed consent prior to the treatment. It is recognised that manipulation is only a small part of a larger continuum of patient care offered by the OMT Physical Therapist. It would be rare that a patient would only undergo one form of treatment in a session (i.e. manipulation), as usual OMT Physical Therapy involves a continuum of care employing a multimodal approach to treatment based on the patient's individual examination/re-examination findings.

In the event that manipulation/HVLAT (high velocity low amplitude thrust techniques) applied to the spinal or peripheral joints of patients is prohibited by government legislation this would not preclude the OMT group of that country obtaining membership by ensuring that manipulation is taught and practised as part of the OMT educational programme. The principles of manipulation are the same for spinal and peripheral joints and therefore these manipulation principles and related techniques can be applied to peripheral joints. In the event that high velocity spinal manipulation techniques cannot be applied to patients with spinal problems, training in the theory and technique (as well as application of manipulation to the peripheral joints of patients) should be undertaken as this could be used to change government policy.

If a country states that there is a legal restriction to manipulation, the details of such legislation should be produced with application for membership.

APPENDIX D

COMPETENCIES IN OMT

Dimension 1

Dimension 1	**Demonstration of critical and evaluative evidence informed practice**
Competencies Relating to Knowledge	
Competency D1.K1	Demonstrate critical and evaluative application of evidence informed practices relevant to the field of OMT
Competency D1.K2	Demonstrate evaluative understanding of appropriate outcome measures
Competencies Relating to Skills	
Competency D1.S1	Demonstrate ability to retrieve, integrate and apply knowledge from the clinical, medical and behavioural sciences in the clinical setting, recognising the limitations of incorporating evidence into practice
Competency D1.S2	Demonstrate ability to critically review the recent literature of the basic and applied sciences relevant to NMS dysfunction, to draw inferences for OMT practice and present material logically in both verbal and written forms
Competency D1.S3	Demonstrate an evidence informed approach to the assessment and management of patients with NMS dysfunctions
Competency D1.S4	Demonstrate the ability to evaluate the results of treatment accurately and modify and progress treatment as required using evidence
Competency D1.S5	Demonstrate the use of outcome measures to evaluate the effectiveness of OMT
Competency D1.S6	Demonstrate an ability to integrate and apply evidenced informed approaches in the presentation of health promotion and preventative care programmes
Competency D1.S7	Demonstrate an ability to enhance and promote the rights of a patient to actively participate in their health care management by taking into consideration the patient's wishes, goals, attitudes, beliefs and circumstances
Competencies Relating to Attributes	
Competency D1.A1	Demonstrate a critical and evaluative approach to all aspects of practice

Dimension 2

Dimension 2	**Demonstration of critical use of a comprehensive knowledge base of the biomedical sciences in the speciality of OMT**
Competencies Relating to Knowledge	
Competency D2.K1	Demonstrate comprehensive knowledge of anatomy of the musculoskeletal, neurological, vascular and lymphatic systems to enable evaluation of normal and abnormal function
Competency D2.K2	Demonstrate comprehensive knowledge of physiology of the musculoskeletal, neurological, vascular and lymphatic systems to enable evaluation of normal and abnormal function
Competency D2.K3	Demonstrate comprehensive knowledge of biomechanical properties of visco-elastic tissues to enable evaluation of normal and abnormal function
Competency D2.K4	Demonstrate comprehensive knowledge of pathology and pathogenesis of mechanical dysfunction of the NMS system
Competency D2.K5	Demonstrate comprehensive knowledge of non-mechanical dysfunction of the NMS system
Competency D2.K6	Demonstrate comprehensive knowledge of neurological dysfunctions of the NMS system
Competency D2.K7	Demonstrate comprehensive knowledge of internal visceral dysfunction to differentiate from dysfunction of the NMS system
Competency D2.K8	Demonstrate comprehensive knowledge of cardio-vascular dysfunction to differentiate from dysfunction of the NMS system
Competency D2.K9	Demonstrate comprehensive knowledge of dental and orthodontic dysfunctions related to the NMS system
Competency D2.K10	Demonstrate comprehensive knowledge of pain sciences related to the NMS system
Competency D2.K11	Demonstrate comprehensive knowledge of examination procedures to enable differential diagnosis of NMS, neurological, vascular and lymphatic dysfunction
Competency D2.K12	Demonstrate comprehensive knowledge of indications, contraindications, effects and side-effects of therapeutic drugs related to the examination and management of mechanical and non-mechanical NMS dysfunction
Competency D2.K13	Demonstrate comprehensive knowledge of indications for and the nature of surgical intervention in the management of NMS dysfunction
Competencies Relating to Skills	
Competency D2.S1	Demonstrate application of comprehensive knowledge of the biomedical sciences in the examination and management of patients with NMS dysfunction
Competency	Demonstrate critical evaluation of the contribution of the biomedical

D2.S2	sciences to the patient's presentation
Competency D2.S3	Demonstrate effective interpersonal and communication skills in the application of knowledge of biomedical sciences in the examination and management of patients with NMS dysfunction
Competencies Relating to Attributes	
Competency D2.A1	Demonstrate adaptability of comprehensive knowledge of biomedical sciences in the context of patient-centred practice
Competency D2.A2	Demonstrate criticality of practice in the application of knowledge of biomedical sciences in the examination and management of patients with NMS dysfunction
Competency D2.A3	Demonstrate creativity and innovation in the application of knowledge of biomedical sciences in the examination and management of patients with NMS dysfunction

Dimension 3

Dimension 3	**Demonstration of critical use of a comprehensive knowledge base of the clinical sciences in the specialty of OMT**
Competencies Relating to Knowledge	
Competency D3.K1	Demonstrate comprehensive knowledge of the relevant clinical sciences as applied to OMT such as clinical anatomy, physiology, biomechanics and epidemiology in OMT assessment and management
Competency D3.K2	Demonstrate comprehensive knowledge of effectiveness, risks, and efficacy of OMT interventions
Competency D3.K3	Demonstrate comprehensive knowledge of the specific diagnostic and evaluative qualities of assessment tools, including: reliability, validity, responsiveness, positive likelihood, negative likelihood and diagnostic accuracy
Competency D3.K4	Demonstrate comprehensive knowledge of prognostic, risk, and predictive factors of relevant health problems in relation to OMT management strategies
Competencies Relating to Skills	
Competency D3.S1	Demonstrate the ability to identify the nature and extent of patients' functional abilities, pain and multidimensional needs in relation to the ICF classification and planned OMT management
Competency D3.S2	Demonstrate the ability to determine which assessment and intervention tools are most appropriate and to interpret outcomes
Competency D3.S3	Demonstrate accurate prediction of expected changes and progress towards realistic outcomes
Competency D3.S4	Demonstrate effective interpersonal skills to inform the patient about the risks, prognosis, potential side effects, and likely benefits of an OMT treatment intervention
Competencies Relating to Attributes	
Competency D3.A1	Demonstrate an objective and analytical attitude in the application of knowledge of the clinical sciences

Dimension 4

Dimension 4	**Demonstration of critical use of a comprehensive knowledge base of the behavioural sciences in the speciality of OMT**
Competencies Relating to Knowledge	
Competency D4.K1	Demonstrate comprehensive knowledge of the relevant theories on behaviour and changes of behaviour, such as behavioural reactions to pain and limitations, coping strategies etc. relevant to OMT assessment and management
Competency D4.K2	Demonstrate comprehensive knowledge of behaviour related processes that could be relevant during management of a patient
Competency D4.K3	Demonstrate comprehensive knowledge of the specific indications, diagnostic tools and interventions based on behavioural principles
Competency D4.K4	Demonstrate comprehensive knowledge of the role of the biopsychosocial model in relation to OMT, for example multidisciplinary management strategies
Competency D4.K5	Demonstrate comprehensive knowledge of the influence of the OMT Physical Therapist's behaviour on a patient's behaviour and vice versa
Competencies Relating to Skills	
Competency D4.S1	Demonstrate effective application of aspects of behavioural principles in assessment and management of patients
Competency D4.S2	Demonstrate effective communication skills when applying behavioural principles
Competency D4.S3	Demonstrate effective implementation of the biopsychosocial model in OMT management
Competency D4.S4	Demonstrate effective use of sufficient outcomes to evaluate the clinical behavioural aspects, for example, fear of movement
Competencies Relating to Attributes	
Competency D4.A1	Demonstrate sensitivity to changes in patient behaviour.
Competency D4.A2	Demonstrate reflection and self-evaluation in managing patients
Competency D4.A3	Demonstrate application of biopsychosocial principles in OMT management

Dimension 5

Dimension 5	Demonstration of critical use of a comprehensive knowledge base of OMT
Competencies Relating to Knowledge	
Competency D5.K1	Demonstrate comprehensive knowledge of the interrelationship of the NMS structures in normal function and NMS dysfunction
Competency D5.K2	Demonstrate comprehensive knowledge of the theoretical basis of the assessment of the NMS system and interpretation of this assessment towards a clinical physical diagnosis
Competency D5.K3	Demonstrate comprehensive knowledge of static, dynamic, and functional posture in the assessment of the NMS system and interpretation of this assessment
Competency D5.K4	Demonstrate comprehensive knowledge of the biomechanics and principles of active and passive movements of the articular system including the joint surfaces, ligaments, joint capsules and associated bursae in the assessment of the NMS system and interpretation of this assessment
Competency D5.K5	Demonstrate comprehensive knowledge of the specific tests for functional status of the muscular system in the assessment of the NMS system and interpretation of this assessment
Competency D5.K6	Demonstrate comprehensive knowledge of the specific tests for the function and dynamic mobility of the nervous system in the assessment of the NMS system and interpretation of this assessment
Competency D5.K7	Demonstrate comprehensive knowledge of the specific tests for functional status of the vascular system in the assessment of the NMS system and interpretation of this assessment
Competency D5.K8	Demonstrate comprehensive knowledge of the specific special/screening tests for the safe practice of OMT in the assessment of the NMS system and interpretation of this assessment
Competency D5.K9	Demonstrate comprehensive knowledge of appropriate medical diagnostic tests and their integration required to make a NMS clinical physical diagnosis
Competency D5.K10	Demonstrate comprehensive knowledge of possible interventions for management of NMS dysfunction
Competency D5.K11	Demonstrate comprehensive knowledge of multimodal Physical Therapy intervention for management of NMS dysfunction
Competency D5.K12	Demonstrate comprehensive knowledge of the Physical Therapy theory of manipulative therapy practice in the management of NMS dysfunctions
Competency D5.K13	Demonstrate comprehensive knowledge of various manipulative therapy approaches including those in medicine, osteopathy and chiropractic
Competency	Demonstrate comprehensive knowledge of the indications and

D5.K14	contra-indications for OMT Physical Therapy interventions used in the management of NMS dysfunction
Competency D5.K15	Demonstrate comprehensive knowledge of safety/screening tests appropriate to the choice of management interventions in NMS dysfunction
Competency D5.K16	Demonstrate comprehensive knowledge of evidence informed outcome measures appropriate to the management of NMS dysfunction
Competency D5.K17	Demonstrate comprehensive knowledge of appropriate ergonomic strategies and advice to assist the patient to function effectively in their work environment
Competency D5.K18	Demonstrate comprehensive knowledge of preventative programmes for NMS dysfunctions
Competencies Relating to Skills	
Competency D5.S1	Demonstrate application of comprehensive knowledge of OMT in the examination and management of patients with NMS dysfunction
Competency D5.S2	Demonstrate accurate physical diagnosis of NMS dysfunctions
Competency D5.S3	Demonstrate critical evaluation of the contribution of the OMT knowledge to the examination and management of the patient with NMS dysfunction
Competency D5.S4	Demonstrate integration of principles of mobilisation and manipulation as a component of multimodal OMT Physical Therapy management
Competency D5.S5	Demonstrate integration of principles of exercise physiology as it applies to therapeutic rehabilitation exercise programmes as a component of multimodal OMT Physical Therapy intervention for management of NMS dysfunction
Competency D5.S6	Demonstrate integration of principles of motor-learning as a component of multimodal OMT Physical Therapy intervention for management of NMS dysfunction
Competency D5.S7	Demonstrate integration of principles of patient education as a component of multimodal OMT Physical Therapy intervention for management of NMS dysfunction
Competency D5.S8	Demonstrate integration of principles of other modalities (such as taping, bracing, electrophysical modalities, acupuncture/needling) as a component of multimodal OMT Physical Therapy intervention for management of NMS dysfunction
Competency D5.S9	Demonstrate advanced use of interpersonal and communication skills in effective application of OMT during the patient history, physical examination, reassessment of patients, patient management and in all documentation
Competencies Relating to Attributes	

Competency D5.A1	Demonstrate adaptability of knowledge of OMT in the context of patient centered practice
Competency D5.A2	Demonstrate criticality of evidence informed practice in the application of knowledge of OMT
Competency D5.A3	Demonstrate creativity and innovation in the application of knowledge of OMT.

Dimension 6

Dimension 6	**Demonstration of critical and an advanced level of clinical reasoning skills enabling effective assessment and management of patients with NMS dysfunctions**
Competencies Relating to Knowledge	
Competency D6.K1	Demonstrate critical understanding of the process of hypothetico-deductive clinical reasoning, including hypothesis generation and testing
Competency D6.K2	Demonstrate effective use of the process of pattern recognition, including the importance of organising clinical knowledge in patterns
Competency D6.K3	Demonstrate critical application of the various categories of hypotheses used in OMT, including those related to diagnosis, treatment and prognosis
Competency D6.K4	Demonstrate effective recognition of dysfunction requiring further investigation and /or referral to another healthcare professional
Competency D6.K5	Demonstrate critical evaluation of common clinical reasoning errors
Competencies Relating to Skills	
Competency D6.S1	Demonstrate accurate and efficient selection of inquiry strategies based on early recognition and correct interpretation of relevant clinical cues
Competency D6.S2	Demonstrate critical and evaluative collection of clinical data to ensure reliability and validity of data
Competency D6.S3	Demonstrate advanced use of clinical reasoning to integrate scientific evidence, clinical data, the patient's perceptions and goals, and factors related to the clinical context and the patient's individual circumstances
Competency D6.S4	Demonstrate integration of evidence informed practice and reflective practice in clinical decision-making
Competency D6.S5	Demonstrate application of collaborative clinical reasoning with the patient, carers/care-givers and other health professionals in determining management goals, interventions and measurable outcomes
Competency D6.S6	Demonstrate effective prioritisation in the examination and management of patients with NMS dysfunction
Competency D6.S7	Demonstrate effective use of metacognition in the monitoring and development of clinical reasoning skills
Competencies Relating to Attributes	
Competency D6.A1	Demonstrate patient-centered clinical reasoning in all aspects of clinical practice
Competency	Demonstrate critical understanding of the key role of clinical

D6.A2	reasoning skills in the development of clinical expertise
Competency D6.A3	Demonstrate effective collaborative and communication skills in requesting further investigation or referral to another healthcare professional
Competency D6.A4	Demonstrate learning through critical reflection during and after the clinical encounter
Competency D6.A5	Demonstrate learning through precise and timely reassessment

Dimension 7

Dimension 7	**Demonstration of an advanced level of communication skills enabling effective assessment and management of patients with NMS dysfunctions**
Competencies Relating to Knowledge	
Competency D7.K1	Demonstrate critical understanding of the processes of verbal communication
Competency D7.K2	Demonstrate critical understanding of the processes of non verbal communication
Competency D7.K3	Demonstrate critical understanding of the processes of written communication and record keeping
Competency D7.K4	Demonstrate critical awareness of common errors of communication e.g. use of inappropriate closed questions
Competencies Relating to Skills	
Competency D7.S1	Demonstrate efficient and effective questioning strategies to obtain reliable and valid data from the patient
Competency D7.S2	Demonstrate efficient and effective use of active listening skills throughout the patient encounter
Competency D7.S3	Demonstrate effective explanation to the patient of their individual presentation and their management options
Competency D7.S4	Demonstrate effective collaboration with the patient to inform management decisions
Competency D7.S5	Demonstrate a high level of skill in implementing and educating patients in appropriate rehabilitation exercise programmes
Competency D7.S6	Demonstrate effective documentation of informed consent from the patient for assessment and management procedures as appropriate
Competency D7.S7	Demonstrate maintenance of clear, accurate and effective records of patient assessment and management to meet medical and legal requirements
Competencies Relating to Attributes	
Competency D7.A1	Demonstrate critical awareness of patient-centred communication as being central to effective clinical practice
Competency D7.A2	Demonstrate critical awareness of the central role of communication skills in the development of clinical expertise
Competency D7.A3	Demonstrate critical awareness of the promotion of wellness and prevention through the education of patients, carers/ care-givers, the public and healthcare professionals
Competency D7.A4	Demonstrate empathy in the application of communication skills

Dimension 8

Dimension 8	**Demonstration of an advanced level of practical skills with sensitivity and specificity of handling, enabling effective assessment and management of patients with NMS dysfunctions**
Competencies Relating to Knowledge	
Competency D8.K1	Demonstrate application of knowledge of indications for practical skills
Competency D8.K2	Demonstrate application of knowledge of contraindications for practical skills
Competency D8.K3	Demonstrate integration of knowledge and clinical reasoning in the decision to perform practical skills
Competency D8.K4	Demonstrate integration of knowledge and clinical reasoning in the evaluation of clinical data obtained
Competency D8.K5	Demonstrate integration of knowledge and clinical reasoning in the progression of OMT techniques and management
Competency D8.K6	Demonstrate critical understanding of other interventions and modalities, for example, taping, needling, and electrophysical modalities to enhance rehabilitation of NMS dysfunction
Competencies Relating to Skills	
Competency D8.S1	Demonstrate sensitivity and specificity of handling in the analysis of static and dynamic posture
Competency D8.S2	Demonstrate sensitivity and specificity of handling in the clinical examination of the articular system
Competency D8.S3	Demonstrate sensitivity and specificity of handling in the clinical examination of the nervous system
Competency D8.S4	Demonstrate sensitivity and specificity of handling in the clinical examination of the muscular and fascial systems
Competency D8.S5	Demonstrate sensitivity and specificity of handling in the application of any special tests for the safe practice of OMT, for example cervical artery screening
Competency D8.S6	Demonstrate sensitivity and specificity of handling in the application of a broad range of OMT techniques
Competency D8.S7	Demonstrate sensitivity and specificity of handling in the performance of low velocity, rhythmical, passive movements (mobilisation) and high velocity, low amplitude passive movements with impulse (manipulation)
Competency D8.S8	Demonstrate sensitivity and specificity of handling in the performance of manual and other Physical Therapy techniques to treat the articular, muscular, neural and fascial systems
Competency	Demonstrate sensitivity and specificity of handling in the

D8.S9	implementation and instruction of patients in appropriate therapeutic rehabilitation exercise programmes
Competency D8.S10	Demonstrate advanced use of interpersonal and communication skills in the effective application of practical skills
Competencies Relating to Attributes	
Competency D8.A1	Demonstrate adaptability of practical skills in the context of patient centred practice
Competency D8.A2	Demonstrate criticality of practice in the application of practical skills
Competency D8.A3	Demonstrate creativity and innovation in the application of practical skills

Dimension 9

Dimension 9	**Demonstration of a critical understanding and application of the process of research**
Competencies Relating to Knowledge	
Competency D9.K1	Demonstrate critical understanding of common quantitative research designs, including strengths and weaknesses
Competency D9.K2	Demonstrate critical understanding of common qualitative research designs, including strengths and weaknesses
Competency D9.K3	Demonstrate critical evaluation of ethical considerations relating to human research
Competencies Relating to Skills	
Competency D9.S1	Demonstrate effective critical appraisal of research relevant to OMT Physical Therapy practice as it relates to NMS dysfunction
Competency D9.S2	Demonstrate generation of a research question based on a critical evaluation of the current literature relevant to OMT Physical Therapy practice and relating to NMS dysfunction
Competency D9.S3	Demonstrate development of a research proposal which meets the requirements of a human ethics committee as appropriate
Competency D9.S4	Demonstrate selection and application of appropriate data analysis procedures
Competency D9.S5	Demonstrate effective execution of a research project and dissemination of its conclusions*
Competencies Relating to Attributes	
Competency D9.A1	Demonstrate appreciation of the need for the development of further evidence in OMT Physical Therapy practice through research
Competency D9.A2	Demonstrate critical awareness of the role of research in advancing the body of knowledge in OMT Physical Therapy

*NOTE
A research project is defined as a process of systematic enquiry that provides new knowledge aimed at understanding the basis and mechanism of NMS dysfunction, or improving the assessment and / or management of NMS dysfunction. The process of systematic enquiry is designed to address a research question. The process may use a range of methodological perspectives and methods including literature review, qualitative and quantitative approaches to address the research question

Dimension 10

Dimension 10	**Demonstration of clinical expertise and continued professional commitment to the development of OMT practice**
Competencies Relating to Knowledge	
Competency D10.K1	Demonstrate effective integration of comprehensive knowledge, cognitive and metacognitive proficiency
Competency D10.K2	Demonstrate advanced knowledge of current best evidence in OMT theories, as well as diagnostic, prognostic and intervention techniques
Competency D10.K3	Demonstrate an understanding of advanced knowledge of OMT based on current and classic literature
Competency D10.K4	Demonstrate scholarly contribution to the body of OMT knowledge, skills and measurement of outcomes
Competency D10.K5	Demonstrate efficiency in utilising cues and recognising patterns of NMS dysfunction
Competencies Relating to Skills	
Competency D10.S1	Demonstrate ability to combine the evidence, knowledge, skills, other clinical applications, patient preferences, circumstances and environmental situations in determining an OMT intervention
Competency D10.S2	Demonstrate effective continued direct patient care
Competency D10.S3	Demonstrate effective and efficient communication and interpersonal skills involving the patient and others in decision-making
Competency D10.S4	Demonstrate ability to solve problems with accuracy and precision
Competency D10.S5	Demonstrate ability to employ lateral thinking to generate new hypotheses or techniques to produce a positive outcome or plan of care
Competency D10.S6	Demonstrate sound professional judgements when selecting assessment and treatment techniques, evaluating benefit and risk
Competency D10.S7	Demonstrate ability to simultaneously monitor multiple dimensions of data during patient contact while maintaining a professional but relaxed communication style
Competency D10.S8	Demonstrate efficient and effective use of a variety of techniques that encompass the breadth of OMT
Competency D10.S9	Demonstrate efficiency and effectiveness in the practice of OMT in the clinical setting
Competency	Demonstrate a patient-centred approach to practice,

D10.S10	responding and rapidly adapting the assessment and intervention to the emerging data and the patient's perspective
Competency D10.S11	Demonstrate efficient and effective use of OMT within one episode of care with patients with multiple inter-related or separate dysfunctions and/or co-morbidities
Competency D10.S12	Demonstrate ability to skilfully consult with peers, other professionals, legislative and regulatory organisations as appropriate
Competencies Relating to Attributes	
Competency D10.A1	Demonstrate professional, ethical and autonomous practice
Competency D10.A2	Demonstrate a commitment to life-long learning with continuous educational development
Competency D10.A3	Demonstrate a commitment to contributing to the professional development of OMTs through teaching and mentoring
Competency D10.A4	Demonstrate a commitment to professional service to the profession and community to assist in the advancement of the OMT profession and to the benefit of the public
Competency D10.A5	Demonstrate sound professional judgement, empathy and cultural competence in all patient interactions

APPENDIX E

PROGRAMME MAPPING TO DIMENSIONS AND LEARNING OUTCOMES

The purpose of this document is to assist the External Assessor (EA) and therefore MO in the educational quality and standards evaluation of their educational programme.

An International Monitoring requirement for all MO programmes is a clear demonstration to the EA that all Learning Outcomes for each dimension of the 2016 Standards Document have been achieved. It is the programme's responsibility to provide the mandatory evidence to the EA that the Learning Outcomes for each dimension are both being covered and assessed. The EA report must state that there has been a viewing of the evidence of the Learning Outcomes for each dimension within all programmes, with reference to the documents reviewed to enable their conclusions. The mapping document has been developed as a tool to assist the MOs, and therefore the programmes, in this process. It is not mandatory to use this document in this or any other format if the MO has another means to demonstrate mapping of their educational programme against the 2016 Standards Document i.e. the MOs are free to develop their own tool if they find this achieves the mandatory reporting and evidence for the Learning Outcomes for each dimension.

Note
Some programmes may wish to map their OMT program to either the Learning Outcomes portions of the table below, the Full Competencies of the Dimensions portion of the table below or both systems.

.

SAMPLE

Post Graduate Degree (name): _____

Community Course Program(name): _____

Program Year/Term:	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	
Course full Name (written out in each of the columns)	eg. Orthopaedics & Neurology	eg. Kinesiology & Taping	eg. Orthopaedic Manipulative Therapy 3	eg. Information Technology	eg. Orthopaedic Manipulative Therapy 4	eg. Pathology and diagnosis	eg. Clinical placement 1	eg. Research Methods and Statistics for Healthcare Professsionals	eg. Physiology of human movement	eg. Orthopaedic Manipulative Therapy 1	eg. Functional anatomy	eg. Principles of exercise	eg. Orthopaedic Manipulative Therapy 2	eg. Clinical placement 2	eg. Dissertation	
Number of course hours																**% of course content**
<u>Dimension 1:</u> Demonstration of critical and evaluative evidence informed practice	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Learning Outcomes Associated with Dimension 1:																
1. Retrieve, integrate and critically apply knowledge from the clinical, biomedical and behavioural sciences in order to draw inferences for OMT practice, recognising the limitations of incorporating evidence into practice		xy	xy		xy		xy			xy			xy	xy		
2. Critically evaluate the results of treatment accurately, and modify and progress treatment and management as required using outcome measures to evaluate the effectiveness of OMT			xy		xy		xy			xy			xy	xy		
3. Integrate and apply evidence informed approaches in the presentation of health promotion and preventative care programmes			xy		xy	xy	x		xy	x		xy	xy	x		
4. Enhance and promote the rights of the patient to actively participate in the health care management taking into account the patient's wishes, goals, attitudes, beliefs, and circumstances		xy	xy		xy		x	xy		xy		x	x	x		

<u>Dimension 1</u>: Demonstration of critical and evaluative evidence informed practice	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Competencies Relating to Knowledge																
Demonstrate critical and evaluative application of evidence informed practices relevant to the field of OMT			xy		xy	xy	x		xy	x		xy	xy	x		
Demonstrate evaluative understanding of appropriate outcome measures		xy	xy		xy		x	xy		xy		x	x	x		
Competencies Relating to Skills																
Demonstrate ability to retrieve, integrate and apply knowledge from the clinical, medical and behavioural sciences in the clinical setting, recognising the limitations of incorporating evidence into practice							xy							xy		
Demonstrate ability to critically review the recent literature of the basic and applied sciences relevant to NMS dysfunction, to draw inferences for OMT practice and present material logically in both verbal and written forms			x		x		x			xy			x	x		
Demonstrate an evidence informed approach to the assessment and management of patients with NMS dysfunctions			xy		xy		xy			xy			xy	xy		
Demonstrate the ability to evaluate the results of treatment accurately and modify and progress treatment as required using evidence			xy		xy		xy			xy		xy	xy	xy		
Demonstrate the use of outcome measures to evaluate the effectiveness of OMT		xy	xy		xy		xy			xy			xy	xy		
Demonstrate an ability to integrate and apply evidenced informed approaches in the presentation of health promotion and preventative care programmes			xy		xy		xy			xy			xy	xy		
Demonstrate an ability to enhance and promote the rights of a patient to actively participate in their health care management by taking into consideration the patient's wishes, goals, attitudes, beliefs, and circumstances							x							x		
Competencies Relating to Attributes																
Demonstrate a critical and evaluative approach to all aspects of practice	xy	xy	xy		xy	xy	xy	x	xy	xy	xy	xy	xy	xy	xy	
																Estimate the % of course content for

<u>Dimension 1</u>: Demonstration of critical and evaluative evidence informed practice	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															which this learning outcome is the focus.
Competencies Relating to Knowledge																
Demonstrate critical and evaluative application of evidence informed practices relevant to the field of OMT			xy		xy	xy	x		xy	x		xy	xy	x		
Demonstrate evaluative understanding of appropriate outcome measures		xy	xy		xy		x	xy		xy		x	x	x		
Competencies Relating to Skills																
Demonstrate ability to retrieve, integrate and apply knowledge from the clinical, medical and behavioural sciences in the clinical setting, recognising the limitations of incorporating evidence into practice							xy							xy		
Demonstrate ability to critically review the recent literature of the basic and applied sciences relevant to NMS dysfunction, to draw inferences for OMT practice and present material logically in both verbal and written forms			x		x		x			xy			x	x		
Demonstrate an evidence informed approach to the assessment and management of patients with NMS dysfunctions			xy		xy		xy			xy			xy	xy		
Demonstrate the ability to evaluate the results of treatment accurately and modify and progress treatment as required using evidence			xy		xy		xy			xy		xy	xy	xy		
Demonstrate the use of outcome measures to evaluate the effectiveness of OMT		xy	xy		xy		xy			xy			xy	xy		
Demonstrate an ability to integrate and apply evidenced informed approaches in the presentation of health promotion and preventative care programmes			xy		xy		xy			xy			xy	xy		
Demonstrate an ability to enhance and promote the rights of a patient to actively participate in their health care management by taking into consideration the patient's wishes, goals, attitudes, beliefs, and circumstances							x							x		
Competencies Relating to Attributes																
Demonstrate a critical and evaluative approach to all aspects of practice	xy	xy	xy		xy	xy	xy	x	xy	xy	xy	xy	xy	xy	xy	

Post Graduate Degree (name):_____
Community Course Program(name):_____

Program Year/Term:	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	
Course full Name (written out in each of the columns)																
Number of course hours																**% of course content**

Post Graduate Degree (name):_____
Community Course Program(name):_____

Program Year/Term:	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	
Course full Name (written out in each of the columns)																
Number of course hours																**% of course content**
Dimension 2: Demonstration of critical use of a comprehensive knowledge base of the biomedical sciences in the speciality of OMT	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Learning Outcomes Associated with Dimension 2:																
1. Critically apply knowledge of anatomy, physiology and biomechanics to enable evaluation of normal and abnormal function																
2. Critically evaluate knowledge informing pathology, pathogenesis, and pain mechanisms underlying mechanical dysfunction of the NMS system																
3. Integrate and apply knowledge of examination procedures and differential diagnosis in the assessment of NMS dysfunction																
4. Critically apply knowledge and advanced clinical reasoning skills to differentiate dysfunction of the NMS system from non-mechanical dysfunction in other systems																
5. Critically apply knowledge of indications, contraindications, precautions and effects to inform best practice in management of NMS dysfunction																

<u>Dimension 2</u>: Demonstration of critical use of a comprehensive knowledge base of the biomedical sciences in the speciality of OMT	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Competencies Relating to Knowledge																
Demonstrate comprehensive knowledge of anatomy of the musculoskeletal, neurological, vascular and lymphatic systems to enable evaluation of normal and abnormal function																
Demonstrate comprehensive knowledge of physiology of the musculoskeletal, neurological, vascular and lymphatic systems to enable evaluation of normal and abnormal function																
Demonstrate comprehensive knowledge of biomechanical properties of viscoelastic tissues to enable evaluation of normal and abnormal function																
Demonstrate comprehensive knowledge of pathology and pathogenesis of mechanical dysfunction of the NMS system																
Demonstrate comprehensive knowledge of non-mechanical dysfunction of the NMS system																
Demonstrate comprehensive knowledge of neurological dysfunctions of the NMS system																
Demonstrate comprehensive knowledge of internal visceral dysfunction to differentiate from dysfunction of the NMS system																
Demonstrate comprehensive knowledge of cardio-vascular dysfunction to differentiate from dysfunction of the NMS system																
Demonstrate comprehensive knowledge of dental and orthodontic dysfunctions related to the NMS system																
Demonstrate comprehensive knowledge of pain sciences related to the NMS system																
Demonstrate comprehensive knowledge of examination procedures to enable differential diagnosis of NMS, neurological, vascular and lymphatic dysfunction																
Demonstrate comprehensive knowledge of indications, contraindications, effects and side-effects of therapeutic drugs related to the examination and management of mechanical and non-mechanical NMS dysfunction																

Demonstrate comprehensive knowledge of indications for and the nature of surgical intervention in the management of NMS dysfunction																
Competencies Relating to Skills																
Demonstrate application of comprehensive knowledge of the biomedical sciences in the examination and management of patients with NMS dysfunction																
Demonstrate critical evaluation of the contribution of the biomedical sciences to the patient's presentation																
Demonstrate effective interpersonal and communication skills in the application of knowledge of biomedical sciences in the examination and management of patients with NMS dysfunction																
Competencies Relating to Attributes																
Demonstrate adaptability of comprehensive knowledge of biomedical sciences in the context of patient-centred practice																
Demonstrate criticality of practice in the application of knowledge of biomedical sciences in the examination and management of patients with NMS dysfunction																
Demonstrate creativity and innovation in the application of knowledge of biomedical sciences in the examination and management of patients with NMS dysfunction																

Post Graduate Degree (name): _____

Community Course Program(name): _____

Program Year/Term:	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	
Course full Name (written out in each of the columns)																
Number of course hours																**% of the course content**
<u>Dimension 3</u>: Demonstration of critical use of a comprehensive knowledge base of the clinical sciences in the speciality of OMT	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Learning Outcomes Associated with Dimension 3:																
1. Critically apply knowledge of the clinical sciences (clinical anatomy, physiology, biomechanics, and epidemiology) to enable effective assessment of the nature and extent of patients' functional abilities, pain, and multidimensional needs in relation to the ICF classification																
2. Demonstrate appropriate selection of assessment techniques and tools through understanding of their diagnostic and evaluative qualities (including: reliability, validity, responsiveness and diagnostic accuracy)																
3. Critically apply knowledge of effectiveness and risks to inform OMT interventions and accurately predict prognosis with realistic outcomes																
4. Integrate and apply knowledge of prognostic, risk, and predictive factors of relevant health problems to OMT management decisions to ensure the patient can make informed choices																

<u>Dimension 3:</u> Demonstration of critical use of a comprehensive knowledge base of the clinical sciences in the speciality of OMT	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Competencies Relating to Knowledge																
Demonstrate comprehensive knowledge of the relevant clinical sciences as applied to OMT such as clinical anatomy, physiology, biomechanics and epidemiology in OMT assessment and management																
Demonstrate comprehensive knowledge of effectiveness, risks, and efficacy of OMT interventions																
Demonstrate comprehensive knowledge of the specific diagnostic and evaluative qualities of assessment tools, including: reliability, validity, responsiveness, positive likelihood, negative likelihood, and diagnostic accuracy																
Demonstrate comprehensive knowledge of prognostic, risk, and predictive factors of relevant health problems in relation to OMT management strategies																
Competencies Relating to Skills																
Demonstrate the ability to identify the nature and extent of patients' functional abilities, pain and multidimensional needs in relation to the ICF classification and planned OMT management																
Demonstrate the ability to determine which assessment and intervention tools are most appropriate and to interpret outcomes																
Demonstrate accurate prediction of expected changes and progress towards realistic outcomes																
Demonstrate effective interpersonal skills to inform the patient about the risks, prognosis, potential side effects, and likely benefits of an OMT treatment intervention																
Competencies Relating to Attributes																
Demonstrate an objective and analytical attitude in the application of knowledge of the clinical sciences																

Post Graduate Degree (name): _____
Community Course Program(name): _____

Program Year/Term:	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	
Course full Name (written out in each of the columns)																
Number of course hours																**% of the course content**
<u>Dimension 4:</u> Demonstration of critical use of a comprehensive knowledge base of the behavioural sciences in the speciality of OMT	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Learning Outcomes Associated with Dimension 4:																
1. Critically apply theory of behaviour and behaviour change to effective OMT assessment and management																
2. Work effectively within a biopsychosocial model of OMT practice to inform assessment and management strategies																
3. Critically evaluate, through sensitivity to behaviour, the influence of the OMT Physical Therapist's behaviour on a patient's behaviour and vice versa																
4. Critically use data from screening tool to evaluate the clinical behavioural aspects of a patient's presentation																
<u>Dimension 4:</u> Demonstration of critical use of a comprehensive knowledge base of the behavioural sciences in the speciality of OMT	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Competencies Relating to Knowledge																
Demonstrate comprehensive knowledge of the relevant																

theories on behaviour and changes of behaviour, such as behavioural reactions to pain and limitations, coping strategies etc. relevant to OMT assessment and management																
Demonstrate comprehensive knowledge of behaviour related processes that could be relevant during management of a patient																
Demonstrate comprehensive knowledge of the specific indications, diagnostic tools and interventions based on behavioural principles																
Demonstrate comprehensive knowledge of the role of the biopsychosocial model in relation to OMT, for example multidisciplinary management strategies																
Demonstrate comprehensive knowledge of the influence of the OMT Physical Therapist's behaviour on a patient's behaviour and vice versa																
Competencies Relating to Skills																
Demonstrate effective application of aspects of behavioural principles in assessment and management of patients																
Demonstrate effective communication skills when applying behavioural principles																
Demonstrate effective implementation of the biopsychosocial model in OMT management																
Demonstrate effective use of sufficient outcomes to evaluate the clinical behavioural aspects, for example, fear of movement																
Competencies Relating to Attributes																
Demonstrate sensitivity to changes in patient behaviour.																
Demonstrate reflection and self evaluation in managing patients																
Demonstrate application of biopsychosocial principles in OMT management																

Post Graduate Degree (name): _____

Community Course Program(name): _____

Program Year/Term:	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	
Course full Name (written out in each of the columns)																
Number of course hours																**% of the course content**
Dimension 5: Demonstration of critical use of a comprehensive knowledge base of OMT	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Learning Outcomes Associated with Dimension 5:																
1. Retrieve, integrate, and critically apply current knowledge of the theoretical basis and evidence base of OMT to inform assessment of the NMS system																
2. Critically evaluate evidence based diagnostic tests and outcome measures to enable a clinical diagnosis and effective evaluation of OMT management																
3. Critically apply current evidence informed theory and knowledge of safe and effective practice of OMT in the assessment and patient-centred management of the NMS system																
4. Integrate, apply and evaluate principles of mobilisation, manipulation, motor-learning, exercise physiology, ergonomic strategies, and other modalities as components of multimodal evidence informed OMT Physical Therapy intervention, to optimise a patient's functional ability																

<u>Dimension 5</u>: Demonstration of critical use of a comprehensive knowledge base of OMT	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Competencies Relating to Knowledge																
Demonstrate comprehensive knowledge of the interrelationship of the NMS structures in normal function and NMS dysfunction																
Demonstrate comprehensive knowledge of the theoretical basis of the assessment of the NMS system and interpretation of this assessment towards a clinical physical diagnosis																
Demonstrate comprehensive knowledge of static, dynamic, and functional posture in the assessment of the NMS system and interpretation of this assessment																
Demonstrate comprehensive knowledge of the biomechanics and principles of active and passive movements of the articular system including the joint surfaces, ligaments, joint capsules and associated bursae in the assessment of the NMS system and interpretation of this assessment																
Demonstrate comprehensive knowledge of the specific tests for functional status of the muscular system in the assessment of the NMS system and interpretation of this assessment																
Demonstrate comprehensive knowledge of the specific tests for the function and dynamic mobility of the nervous system in the assessment of the NMS system and interpretation of this assessment																
Demonstrate comprehensive knowledge of the specific tests for functional status of the vascular system in the assessment of the NMS system and interpretation of this assessment																
Demonstrate comprehensive knowledge of the specific special/screening tests for the safe practice of OMT in the assessment of the NMS system and interpretation of this assessment																
Demonstrate comprehensive knowledge of appropriate medical diagnostic tests and their integration required to make a NMS clinical physical diagnosis																
Demonstrate comprehensive knowledge of possible interventions for management of NMS dysfunction																

Demonstrate comprehensive knowledge of multimodal Physical Therapy intervention for management of NMS dysfunction																
Demonstrate comprehensive knowledge of the Physical Therapy theory of manipulative therapy practice in the management of NMS dysfunctions																
Demonstrate comprehensive knowledge of various manipulative therapy approaches including those in medicine, osteopathy and chiropractic																
Demonstrate comprehensive knowledge of the indications and contra-indications for OMT Physical Therapy interventions used in the management of NMS dysfunction																
Demonstrate comprehensive knowledge of safety / screening tests appropriate to the choice of management interventions in NMS dysfunction																
Demonstrate comprehensive knowledge of evidence informed outcome measures appropriate to the management of NMS dysfunction																
Demonstrate comprehensive knowledge of appropriate ergonomic strategies and advice to assist the patient to function effectively in their work environment																
Demonstrate comprehensive knowledge of preventative programmes for NMS dysfunctions																
Competencies Relating to Skills																
Demonstrate application of comprehensive knowledge of OMT in the examination and management of patients with NMS dysfunction																
Demonstrate accurate clinical physical diagnosis of NMS dysfunctions																
Demonstrate critical evaluation of the contribution of the OMT knowledge to the examination and management of the patient with NMS dysfunction																
Demonstrate integration of principles of mobilisation and manipulation as a component of multimodal OMT Physical Therapy management																
Demonstrate integration of principles of exercise physiology as it applies to therapeutic rehabilitation exercise programmes as a component of multimodal OMT Physical Therapy intervention for management of NMS dysfunction																

Demonstrate integration of principles of motor-learning as a component of multimodal OMT Physical Therapy intervention for management of NMS dysfunction																
Demonstrate integration of principles of patient education as a component of multimodal OMT Physical Therapy intervention for management of NMS dysfunction																
Demonstrate integration of principles of other modalities (such as taping, bracing, electrophysical modalities, acupuncture/needling) as a component of multimodal OMT Physical Therapy intervention for management of NMS dysfunction																
Demonstrate advanced use of interpersonal and communication skills in effective application of OMT during the patient history, physical examination, reassessment of patients, patient management and in all documentation																
Competencies Relating to Attributes																
Demonstrate adaptability of knowledge of OMT in the context of patient centred practice																
Demonstrate criticality of evidence informed practice in the application of knowledge of OMT																
Demonstrate creativity and innovation in the application of knowledge of OMT																

Post Graduate Degree (name): _____

Community Course Program(name): _____

Program Year/Term:	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	
Course full Name (written out in each of the columns)																
Number of course hours																**% of the course content**
Dimension 6: Demonstration of critical and an advanced level of clinical reasoning skills enabling effective assessment and management of patients with NMS dysfunctions	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Learning Outcomes Associated with Dimension 6:																
1. Use advanced clinical reasoning to integrate scientific evidence, clinical data, and biopsychosocial factors related to the clinical contex																
2. Critically apply the hypothetico-deductive and pattern recognition clinical reasoning processes using the various categories of hypotheses used in OMT, related to diagnosis, treatment, and prognosis																
3. Critically evaluate and effectively prioritise clinical data collection to ensure reliability and validity of data and quality of clinical reasoning processes																
4. Integrate evidence informed practice, reflective practice, and metacognition into a collaborative reasoning/clinical decision-making process with the patient, carers, and other health professionals to determining management goals, interventions, and measurable outcomes																

<u>Dimension 6</u>: Demonstration of critical and an advanced level of clinical reasoning skills enabling effective assessment and management of patients with NMS dysfunctions	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Competencies Relating to Knowledge																
Demonstrate critical understanding of the process of hypothetic-deductive clinical reasoning, including hypothesis generation and testing																
Demonstrate effective use of the process of pattern recognition, including the importance of organising clinical knowledge in patterns																
Demonstrate critical application of the various categories of hypotheses used in OMT, including those related to diagnosis, treatment and prognosis																
Demonstrate effective recognition of dysfunction requiring further investigation and/or referral to another healthcare professional																
Demonstrate critical evaluation of common clinical reasoning errors																
Competencies Relating to Skills																
Demonstrate accurate and efficient selection of inquiry strategies based on early recognition and correct interpretation of relevant clinical cues																
Demonstrate critical and evaluative collection of clinical data to ensure reliability and validity of data																
Demonstrate advanced use of clinical reasoning to integrate scientific evidence, clinical data, the patient's perceptions and goals, and factors related to the clinical context and the patient's individual circumstances																
Demonstrate integration of evidence informed practice and reflective practice in clinical decision-making																
Demonstrate application of collaborative clinical reasoning with the patient, carers/care-givers and other health professionals in determining management goals, interventions and measurable outcomes																
Demonstrate effective prioritisation in the examination and management of patients with NMS dysfunction																

Demonstrate effective use of metacognition in the monitoring and development of clinical reasoning skills																
Competencies Relating to Attributes																
Demonstrate patient-centred clinical reasoning in all aspects of clinical practice																
Demonstrate critical understanding of the key role of clinical reasoning skills in the development of clinical expertise																
Demonstrate effective collaborative and communication skills in requesting further investigation or referral to another healthcare professional																
Demonstrate learning through critical reflection during and after the clinical encounter																
Demonstrate learning through precise and timely reassessment																

Post Graduate Degree (name): _____

Community Course Program(name): _____

Program Year/Term:	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	
Course full Name (written out in each of the columns)																
Number of course hours																**% of the course content**
<u>Dimension 7:</u> Demonstration of an advanced level of communication skills enabling effective assessment and management of patients with NMS dysfunctions	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Learning Outcomes Associated with Dimension 7:																
1. Demonstrate empathetic, efficient and effective use of active listening skills, questioning strategies, interpersonal skills, and other verbal/non-verbal communication skills to obtain reliable and valid data from the patient, avoiding errors of communication to enable effective OMT patient management																
2. Demonstrate efficient and clear written communication, patient record keeping, evidence of informed consent for effective and safe OMT patient management that meets medico-legal requirements																
3. Effectively explain the assessment findings and clinical diagnosis to the patient to enable a collaborative, patient-centred discussion of their management options																
4. Proficiently using an advanced skill, implement effective management plans by educating patients in appropriate therapeutic rehabilitation exercise programmes, and the promotion of wellness and prevention through the education of patients,																

carers/care-givers, the public, and healthcare professionals																
<u>Dimension 7</u>: Demonstration of an advanced level of communication skills enabling effective assessment and management of patients with NMS dysfunctions	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Competencies Relating to Knowledge																
Demonstrate critical understanding of the processes of verbal communication																
Demonstrate critical understanding of the processes of non-verbal communication																
Demonstrate critical understanding of the processes of written communication and record keeping																
Demonstrate critical awareness of common errors of communication e.g. use of inappropriate closed questions																
Competencies Relating to Skills																
Demonstrate efficient and effective questioning strategies to obtain reliable and valid data from the patient																
Demonstrate efficient and effective use of active listening skills throughout the patient encounter																
Demonstrate effective explanation to the patient of their individual presentation and their management options																
Demonstrate effective collaboration with the patient to inform management decisions																
Demonstrate a high level of skill in implementing and educating patients in appropriate rehabilitation exercise programmes																
Demonstrate effective documentation of informed consent from the patient for assessment and management procedures as appropriate																
Demonstrate maintenance of clear, accurate and effective records of patient assessment and management to meet medical and legal requirements																
Competencies Relating to Attributes																
Demonstrate critical awareness of patient-centred communication as being central to effective clinical practice																

Demonstrate critical awareness of the central role of communication skills in the development of clinical expertise																
Demonstrate critical awareness of the promotion of wellness and prevention through the education of patients, carers/care-givers, the public and healthcare professionals																
Demonstrate empathy in the application of communication skills																

Post Graduate Degree (name): _____

Community Course Program(name): _____

Program Year/Term:	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	
Course full Name (written out in each of the columns)																
Number of course hours																**% of the course content**
<u>Dimension 8:</u> Demonstration of an advanced level of practical skills with sensitivity and specificity of handling, enabling effective assessment and management of patients with NMS disorders	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Learning Outcomes Associated with Dimension 8:																
1. Critically select and use appropriate practical skills and outcome measures to enable collection of high quality clinical data to inform effective clinical reasoning during patient assessment																
2. Critically select and use as appropriate, a range of therapeutic OMT interventions including patient education, mobilisation, manipulation, and exercise prescription with appropriate consideration of treatment timing, dosage parameters, and progression of interventions																
3. Apply all practical skills with precision, adapting them when required, to enable safe and effective practice																
4. Critically apply a range of other interventions, as appropriate, to enhance patient rehabilitation (e.g. taping)																

<u>Dimension 8:</u> Demonstration of an advanced level of practical skills with sensitivity and specificity of handling, enabling effective assessment and management of patients with NMS disorders	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Competencies Relating to Knowledge																
Demonstrate application of knowledge of indications for practical skills																
Demonstrate application of knowledge of contraindications for practical skills																
Demonstrate integration of knowledge and clinical reasoning in the decision to perform practical skills																
Demonstrate integration of knowledge and clinical reasoning in the evaluation of clinical data obtained																
Demonstrate integration of knowledge and clinical reasoning in the progression of OMT techniques and management																
Demonstrate critical understanding of other interventions and modalities, for example, taping, needling, and electrophysical modalities to enhance rehabilitation of NMS dysfunction																
Competencies Relating to Skills																
Demonstrate sensitivity and specificity of handling in the analysis of static and dynamic posture																
Demonstrate sensitivity and specificity of handling in the clinical examination of the articular system																
Demonstrate sensitivity and specificity of handling in the clinical examination of the nervous system																
Demonstrate sensitivity and specificity of handling in the clinical examination of the muscular and fascial systems																
Demonstrate sensitivity and specificity of handling in the application of any special tests for the safe practice of OMT, for example cervical artery screening																
Demonstrate sensitivity and specificity of handling in the application of a broad range of OMT techniques																
Demonstrate sensitivity and specificity of handling in the performance of low velocity, rhythmical, passive movements (mobilisation) and high velocity, low																

amplitude passive movements with impulse (manipulation)																
Demonstrate sensitivity and specificity of handling in the performance of manual and other Physical Therapy techniques to treat the articular, muscular, neural, and fascial systems																
Demonstrate sensitivity and specificity of handling in the implementation and instruction of patients in appropriate therapeutic rehabilitation exercise programmes																
Demonstrate advanced use of interpersonal and communication skills in the effective application of practical skills																
Competencies Relating to Attributes																
Demonstrate adaptability of practical skills in the context of patient centred practice																
Demonstrate criticality of practice in the application of practical skills																
Demonstrate creativity and innovation in the application of practical skills																

Post Graduate Degree (name): _____

Community Course Program(name): _____

Program Year/Term:	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	
Course full Name (written out in each of the columns)																
Number of course hours																**% of the course content**
<u>Dimension 9</u>: Demonstration of a critical understanding and application of the process of research	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Learning Outcomes Associated with Dimension 9:																
1. Recognise the need for the development of further evidence in OMT practice and the role of research in advancing the body of knowledge in OMT physical therapy																
2. Critically evaluate common quantitative and qualitative research designs and methods																
3. Generate an appropriate research question based on a critical evaluation of current research evidence relevant to OMT practice and NMS dysfunction																
4. Systematically address all ethical considerations associated with research involving human subjects																
5. Effectively execute a research project* relevant to OMT practice and NMS dysfunction, selecting appropriate data analysis procedures and disseminate the conclusions of the study																

<u>Dimension 9</u>: Demonstration of a critical understanding and application of the process of research	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Competencies Relating to Knowledge																
Demonstrate critical understanding of common quantitative research designs, including strengths and weaknesses																
Demonstrate critical understanding of common qualitative research designs, including strengths and weaknesses																
Demonstrate critical evaluation of ethical considerations relating to human research																
Competencies Relating to Skills																
Demonstrate effective critical appraisal of research relevant to OMT Physical Therapy practice as it relates to NMS dysfunction																
Demonstrate generation of a research question based on a critical evaluation of the current literature relevant to OMT Physical Therapy practice and relating to NMS dysfunction																
Demonstrate development of a research proposal which meets the requirements of a human ethics committee as appropriate																
Demonstrate selection and application of appropriate data analysis procedures																
Demonstrate effective execution of a research project and dissemination of its conclusions																
Competencies Relating to Attributes																
Demonstrate appreciation of the need for the development of further evidence in OMT Physical Therapy practice through research																
Demonstrate critical awareness of the role of research in advancing the body of knowledge in OMT Physical Therapy																

Post Graduate Degree (name): _____

Community Course Program(name): _____

Program Year/Term:	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	Course Code #	
Course full Name (written out in each of the columns)																
Number of course hours																**% of the course content**
<u>Dimension 10:</u> Demonstration of clinical expertise and continued professional commitment to the development of OMT practice	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.
Learning Outcomes Associated with Dimension 10:																
1. Utilise effective integration of in-depth knowledge, current best practice, patient-centred practice, cognitive and meta-cognitive proficiency within OMT clinical practice																
2. Solve problems with accuracy, precision, and lateral thinking within all aspects of clinical practice																
3. Utilise sound clinical judgement, evaluating benefit and risk, when selecting OMT assessment and treatment techniques appropriate to the patient's changing environment and presentation																
4. Critically apply efficient, effective, and safe OMT intervention in patients with complex presentations (e.g. multiple inter-related or separate dysfunctions and/or co-morbidities)																
5. Produce scholarly contributions to the body of OMT knowledge, skills and measurement of outcomes																
<u>Dimension 10</u>: Demonstration of clinical expertise and continued professional commitment to the development of OMT practice	Place an "x" in the course column to represent where this learning outcome is included. Place a "y" in the course column where this learning outcome is assessed.															Estimate the % of course content for which this learning outcome is the focus.

Competencies Relating to Knowledge																
Demonstrate effective integration of comprehensive knowledge, cognitive and metacognitive proficiency																
Demonstrate advanced knowledge of current best evidence in OMT theories, as well as diagnostic, prognostic and intervention techniques																
Demonstrate an understanding of advanced knowledge of OMT based on current and classic literature																
Demonstrate scholarly contribution to the body of OMT knowledge, skills and measurement of outcomes																
Demonstrate efficiency in utilising cues and recognising patterns of NMS dysfunction																
Competencies Relating to Skills																
Demonstrate ability to combine the evidence, knowledge, skills, other clinical applications, patient preferences, circumstances and environmental situations in determining an OMT intervention																
Demonstrate effective continued direct patient care																
Demonstrate effective and efficient communication and interpersonal skills involving the patient and others in decision-making																
Demonstrate ability to solve problems with accuracy and precision																
Demonstrate ability to employ lateral thinking to generate new hypotheses or techniques to produce a positive outcome or plan of care																
Demonstrate sound professional judgements when selecting assessment and treatment techniques, evaluating benefit and risk																
Demonstrate ability to simultaneously monitor multiple dimensions of data during patient contact while maintaining a professional but relaxed communication style																
Demonstrate efficient and effective use of a variety of techniques that encompass the breadth of OMT																
Demonstrate efficiency and effectiveness in the practice of OMT in the clinical setting																
Demonstrate a patient-centred approach to practice, responding and rapidly adapting the assessment and intervention to the emerging data and the patient's																

perspective																
Demonstrate efficient and effective use of OMT within one episode of care with patients with multiple inter-related or separate dysfunctions and/or co-morbidities																
Demonstrate ability to skilfully consult with peers, other professionals, legislative and regulatory organisations as appropriate																
Competencies Relating to Attributes																
Demonstrate professional, ethical and autonomous practice																
Demonstrate a commitment to life-long learning with continuous educational development																
Demonstrate a commitment to contributing to the professional development of OMTs through teaching and mentoring																
Demonstrate a commitment to professional service to the profession and community to assist in the advancement of the OMT profession and to the benefit of the public																
Demonstrate sound professional judgement, empathy and cultural competence in all patient interactions																