

# **WHO Guidelines on basic training and safety in osteopathy**



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# 1. Introduction

Osteopathy is a patient-centered system of health care. Osteopathic practitioners use a highly developed sense of touch in the diagnosis and treatment of their patients. They use their understanding of the relationship between structure and function to optimize the body's self-regulating, self-healing capabilities. Osteopathy is practiced in many countries throughout the world. As a hands-on approach to patient care osteopathy has contributed to the body of knowledge of manual therapies and complementary and alternative medicine. It is important to note that the terms "osteopathy" and "osteopathic medicine" are frequently used interchangeably.

Osteopathy is recognized as distinct from other healthcare professions that utilize manual techniques, such as physiotherapy and chiropractic. Osteopathic education, professional associations and international associations are independent of these other professions.

Osteopathy/osteopathic medicine may be practiced independently or incorporated into health care services as a complement or an alternative to allopathic medical care. There are several potential benefits of osteopathic health care when performed by skilled practitioners. For example studies suggest that the cost of osteopathic care may be lower than other forms of health care(1;2), may decrease patient need for pharmacotherapeutics(3;4), and may expose the patient to less diagnostic testing(4). The risk of complication from osteopathic treatment appears to be low(5-10)

Regulations governing training, licensing and practice of osteopathy exist in very few countries. Despite this fact there has been a growth of programmes claiming to teach osteopathy and osteopathic techniques. In some countries manual therapists use osteopathic techniques and claim to provide osteopathic treatment although they have not received proper training. It is in the interest of public safety that standardization of training and scope of practice be defined and regulated for individuals practicing osteopathy.

Among countries where statutory regulation for osteopathic training and practice exist there is some variability in educational systems and practice specifics. These differences generally reflect national norms. However the international profession shares and collaborates in establishing competencies and practice standards (See list of documents)

In countries without statutory regulation osteopathy may be illegal or undefined. Professional organizations, oversight bodies, and educational standards may be lacking. Countries wishing to establish educational programmes and practice competencies in osteopathy need a tool of reference when making decisions about appropriate minimum standards.

## **2. Purpose of the Guidelines**

- To provide minimum requirements of basic training in osteopathy/osteopathic medicine.
- To present contraindications to the use of specific forms of osteopathic manipulative treatment.
- To serve as a reference for national authorities to establish systems for education, examination, and licensing to ensure the qualified practice of osteopathy.
- To provide different models of training programmes for the target trainees with different backgrounds.

## **3. General Considerations**

### **3.1. Historical information**

Osteopathic medicine was developed by Andrew Taylor Still, a physician and surgeon in the United States in the mid-1800s. An essential component of osteopathic health care is osteopathic manual therapy, typically called osteopathic manipulative treatment. Although Dr. Still initially intended his teachings to be an extension of allopathic medicine, he met with much resistance and established the first independent school of osteopathy in 1892. The principles of the philosophy of osteopathy and osteopathic techniques quickly spread throughout the world(11);(12).

In the United States, osteopathic medical education is similar to allopathic medicine education, but includes integration of osteopathic philosophy and principles, and training in osteopathic manipulative treatment procedures throughout all phases of pre- and postdoctoral education. American-trained osteopathic physicians are primary care and primary contact health care providers, and practice in all medical and surgical specialties and subspecialties. They are eligible for full licensure for medical and surgical

practice in many countries.

As osteopathic medicine spread to other nations, the scope of practice and training evolved according to the prevailing geopolitical forces. Economic, political and health system factors influenced the mechanism by which individual countries regulated the training and practice of osteopathic practitioners. As a result there are two principal models of osteopathic practice which are described by the international osteopathic profession as "osteopaths" and "osteopathic physicians". Both serve as primary contact health care providers.

### **3.2. The Philosophy and Principles of Osteopathy**

Osteopathy incorporates the following principles in the management of the patient;

- The human being is a dynamic unit of function, whose state of health is influenced by the body, mind and spirit;
- The body possesses self-regulatory mechanisms and is naturally self-healing;
- Structure and function are interrelated at all levels.

Osteopathy incorporates current medical and scientific knowledge to apply these principles to patient care. Scientific plausibility and evidence-based outcomes have a high priority in patient treatment and case management. Osteopathy recognizes that each patient's clinical signs and symptoms are the consequences of the interaction of multiple physical and non-physical factors. Osteopathy emphasizes the importance of the patient-practitioner relationship in the therapeutic process.

Osteopathy provides a broad range of approaches to the maintenance of health and the management of disease. It embraces the concept of the unity of the individual's structure (anatomy) and function (physiology); as such osteopathy is a patient centered system of health care, rather than disease centered.

Essential components of osteopathy are structural diagnosis and osteopathic manual treatment. Osteopathic treatment was developed as a means to facilitate normal self-regulating/self-healing mechanisms in the body by addressing areas of tissue strain, stress or dysfunction which may impede normal neural, vascular and biochemical mechanisms.

The practical application of the philosophy is described by several models of structure-function relationships (See 3.2.1) that osteopathic practitioners use to

influence the gathering of diagnostic information and the interpretation of the significance of neuromusculoskeletal findings in the overall health of the patient. As such osteopathy is not limited to the diagnosis and treatment of musculoskeletal problems, nor does it emphasize joint alignment and radiographic evidence of structural relationships. Osteopathy is more concerned with the manner in which the biomechanics of the musculoskeletal system are integrated with and support the entire body physiology.

Although manual techniques are used by various manipulative professions the unique manner in which osteopathic manipulative techniques are integrated into patient management, as well as the duration, frequency and the choice of technique are distinctive aspects of osteopathy. Osteopathic manipulative treatment (OMT) employs many types of manipulative techniques including spinal thrust, and impulse techniques as well as very gentle techniques (See Annex II).

### **3.2.1. Models of Structure-Function Relationships**

The models of structure-function relationships guide the osteopathic practitioner's approach to diagnosis and treatment. The models provide a framework for interpreting the significance of somatic dysfunction within the context of objective and subjective clinical information. Typically a combination of models will be appropriate for an individual patient. The combination chosen is modified by the patient's differential diagnosis, comorbidities, other therapeutic regimens and response to treatment.

- **Biomechanical Model**

The biomechanical model views the body as an integration of somatic components that relate as a mechanism for posture and balance. Stresses or imbalances within this mechanism may affect dynamic function, increase energy expenditure, alter proprioception, change joint structure, impede neurovascular function and alter metabolism(13-16). This model applies therapeutic approaches, including osteopathic manipulative techniques, that allow for restoration of posture and balance, and efficient use of its musculoskeletal components.

- **Respiratory/Circulatory Model**

The respiratory/circulatory model concerns itself with the maintenance of extra and intracellular environments through the unimpeded delivery of oxygen and nutrients and the removal of cellular waste products. Tissue stress or other

factors interfering with the flow or circulation of any body fluid can affect tissue health(17). This model applies therapeutic approaches, including osteopathic manipulative techniques, to address dysfunction in respiratory mechanics, circulation and the flow of body fluids.

- Neurological Model

The neurological model considers the influence of spinal facilitation, proprioceptive function, the autonomic nervous system, and activity of nociceptors (pain fibers) on the function of the neuroendocrine immune network(18-24). Of particular importance is the relationship between the somatic and visceral (autonomic) systems. This model applies therapeutic approaches including osteopathic manipulative techniques, to reduce mechanical stresses, balance neural inputs and reduce or eliminate nociceptive drive.

- Bio-psychosocial Model

The bio-psychosocial model recognizes the various reactions and psychological stresses with which patients contend. Health may be affected by environmental, socioeconomic, cultural, physiological and psychological factors. Disease may be influenced by environmental, socioeconomic, cultural or psychological events, and these can, , influence the physiologic outcome. This model applies therapeutic approaches including osteopathic manipulative techniques to address the affects of and reactions to various biopsychosocial stresses.

- Bioenergetic Model

The bioenergetic model recognizes that the body seeks to maintain a balance between energy production, its distribution, and expenditure. Maintaining this balance aids the body in its ability to adapt to various stressors; immunological, nutritional, psychological, etc. This model applies therapeutic approaches including osteopathic manipulative techniques, to address factors which have the potential to dysregulate the production, distribution or expenditure of energy(15;16;25).



## **Glossary(26;27):**

### **Osteopathy/Osteopathic medicine**

A comprehensive system of health care with a philosophy that combines the needs of the patient with an understanding of the practice of allopathic medicine, surgery and obstetrics. In clinical practice there is an emphasis on the interrelationship between structure and function, and an appreciation of the body's ability to heal itself.

### **Osteopath**

A professional who has achieved those competencies which allow them to independently practice osteopathy.

### **Osteopathic physician**

A professional who has achieved those competencies which allow them to have a scope of practice which incorporates osteopathic principles, philosophy , and techniques into medical, and/or surgical practice.

### **Osteopathic manipulative treatment (OMT)**

The therapeutic application of manually guided forces by an osteopathic practitioner to improve physiologic function and/or support homeostasis that has been altered by somatic dysfunction. This is accomplished by a wide variety of technique approaches. OMT includes all manual therapeutic techniques utilized by osteopathic practitioners (Annex II). OMT is applied using the principles of osteopathy.

### **Primary contact health care practitioner**

A healthcare practitioner practicing under his or her own license/registration who may be consulted directly by patients without prior referral from a physician.

### **Somatic dysfunction**

Impaired or altered function of related components of the somatic (body framework) system; musculoskeletal, visceral, arthrodiagonal, and myofascial

structures and other related elements. OMT can be used to treat somatic dysfunction.

# Part 1: Basic Training in Osteopathy

## 1. Use of osteopathy/osteopathic medicine

Osteopathic training provides the practitioner with the knowledge and skills to treat many conditions. Historically osteopathic treatment has been reported to be used in the management of many musculoskeletal and non-musculoskeletal diseases and conditions,(12;28;29) (30-42). eg, low back pain(3;43;44), headache(33;45-51), fibromyalgia(52), Parkinson's disease (53), carpal tunnel syndrome(54-56), various respiratory conditions(57), and otitis media(58;59).

### 1.1. Administrative and Academic Considerations

The training of osteopathic practitioners includes certain administrative and academic considerations:

- Minimum competencies for safe practice.
- Oversight of training programs and practitioners to ensure patient safety.
- The methods by which training and education are accomplished.
- The need for part time programmes or transitional programmes and their relationship to the development of full time programmes.
- The minimum standards for conversion training programmes for health care practitioners.
- The most appropriate training for persons with no prior health care training and the prerequisites for entry into such training programmes.
- Guidelines for an individual practitioner's safe scope of practice.
- The development of appropriately trained and accredited faculty.
- The required facilities for training.
- The role of continuing professional development/education.
- Create a framework for registration and/or licensing
- Research training

### 1.2. Scope of Practice

In all cases osteopathic practitioners are primary contact health care providers. The extent of an individual's scope of practice is determined by the respective national authorities, and depends upon his or her training and the acceptable standards and licensing regulations within his or her country.

### **1.2.1. Osteopaths**

A professional who has achieved those competencies which allow them to independently practice osteopathy. Osteopaths are primary contact health care providers.

Osteopaths work as an alternative, parallel, adjunct or complement to standard medical care, based on the scope of their training.

### **1.2.2. Osteopathic physicians**

A professional who has achieved those competencies which allow them to have a scope of full medical and/or surgical practice which incorporates osteopathic principles and philosophy. Osteopathic physicians are licensed or registered to practice osteopathic diagnosis and treatment. In addition, osteopathic physicians have a full scope of medical and/or surgical practice, which includes, but is not limited to prescription medicine, obstetrics and/or surgery. They are primary contact health care providers and serve as primary care physicians as well as specialist physicians.

Osteopathic physicians may be medical doctors who have completed post-doctoral training in osteopathic medicine, or physicians trained simultaneously in both medicine and osteopathy. Osteopathic physicians offer an alternative, parallel, adjunct or complement to allopathic medical care. Because of the scope of their training, they are capable of directly providing the medical, pharmaceutical and surgical aspects of the patient's care. The osteopathic physician will integrate the use of standard medical diagnosis and treatment with osteopathic diagnosis and manipulative treatment in the care of their patients. Decisions concerning medical testing and treatment may be influenced by osteopathic structural findings and the patient's response to osteopathic treatment.

## **1.3. Examination and Licensing/ Registration**

It is essential that educational provision is subject to appropriate external quality assurance processes. This may take the form of a standardized examination that is independent of the training institution and meets national standards for minimum competencies. The examination process needs to be appropriate to the scope of training and evaluate relevant knowledge and clinical/technical skills. In countries licensing both osteopaths and osteopathic physicians, the exams and requirements for safe practice would, by necessity,

differ between the two types of practitioners. However the examination content should include overlapping material unique to the osteopathic profession and shared by both osteopaths and osteopathic physicians.

A standardized examination process for osteopaths and osteopathic physicians, which includes the shared competencies and leads to licensure, would protect the public, guarantee minimum competencies and deter commercial exploitation of osteopathic training and practice.

Licensing or registration processes should also be independent of the training program. Upon completion of the training programme individuals would become responsible to the osteopathic licensing or regulating body. Continued professional development is thought to be important to maintain public safety.

#### **1.4. Supervision, monitoring, accreditation, and evaluation**

##### **1.4.1. Supervision**

Upon successful completion of training, both osteopaths and osteopathic physicians are independent practitioners who may practice within the scope of their training without supervision from another clinician.

##### **1.4.2. Monitoring**

The quality of educational programmes, professional standards and patient protection issues should be monitored by qualified bodies. These bodies usually include representatives of the profession as well as individuals from outside the profession. This ensures an unbiased review of practitioners.

##### **1.4.3. Accreditation**

All training programmes for osteopaths and osteopathic physicians must be accredited by a qualified body independent from the training program or school. In the interest of public safety this body should be granted accreditation and oversight authority by the government and should also be responsible for ongoing review of the quality of the educational programmes.

## **2. Levels of Acceptable Education and Training**

There are two models of osteopathic practice and four models of education, which train individuals to function as osteopathic health care practitioners.

### **2.1. Osteopath**

The education and training required to function as a primary contact health care provider practicing osteopathy requires minimum 4 years of training to achieve competencies.

- Programmes for persons with little or no prior health care education.
- Conversion training programmes for health care practitioners (not medical doctors).

### **2.2. Osteopathic physician**

The education and training required to function as a primary contact and primary health care provider practicing osteopathic medicine requires a minimum of 6 years of training to achieve competencies.

- Programmes for students with little or no prior health care training who wish to practice as osteopathic physicians.
- Conversion programmes for applicants who have already completed allopathic medical training and wish to practice as osteopathic physicians.

## **3. Models of Osteopathic Education**

### **3.1. Osteopaths**

Countries may choose to establish training programmes in osteopathy. These training programmes may be for entry-level students or conversion programmes for health care practitioners. The prerequisites for entry would differ between the programme types. Nevertheless, programmes should meet the national academic and professional standards of the country.

There are distinctive cognitive and sensorimotor skills essential to the competent practice of osteopathy. There is a minimum period of time needed to acquire an appropriate mastery for safe practice. Programmes must include supervised osteopathic clinical practice and training. Osteopathic skills and physical examination training must be delivered via direct contact. Other academic curricular content may be delivered through various pedagogues and educational formats. Training may be full-time, part-time or a combination.

### **3.1.1. Full time training**

Full time training programs are for persons with little or no prior clinical education. These programmes may be four-year full time programmes leading to a bachelaurate level degree, or four to six years full time leading to a masters level degree. Supervised clinical training in appropriate osteopathic clinical sites is an essential component

Full time programmes may choose to train some applicants as full time equivalents based upon prior experience and training. Minimum standards for admission should select those students most capable of mastering the knowledge and skills taught in the programme. Students may also be required to complete a thesis or project.

### **3.1.2. Conversion programmes for health care practitioners (not medical doctors)**

Conversion training programmes have curricular that is equivalent in content to a full time osteopathic program. Conversion programs may choose to modify course content and length based upon the prior experience and training of applicants. Most conversion programs are part time and occur over a minimum of 4 years and a maximum of 6 years.

The prerequisites for entry into conversion programmes include an academic degree and licensure or registration as a clinical professional, with appropriate basic science and clinical training to provide a foundation for the osteopathic training. Conversion programmes incorporate previously gained knowledge and training into the non-osteopathic components of the curriculum to help the student meet minimum competencies. Graduates of conversion programs must demonstrate the same minimum competencies as graduates of full time programs.

Osteopathic manipulative treatment is a distinctive component of osteopathy. It includes both cognitive and sensorimotor skills and knowledge. Depending upon the individual's prior training, more or less time may be needed to acquire the skills necessary for safe practice. However, all conversion

programmes must provide supervised osteopathic clinical training in appropriate osteopathic clinical sites, and full osteopathic curricular content.

In some cases the development of a conversion type programme may be a temporary step in the development of full time programmes in osteopathy.

### **3.2. Osteopathic physicians**

Countries may choose to establish training programmes in osteopathic medicine. Such programmes may be undergraduate programmes for medical students or post-graduate programmes for licensed medical and/or surgical doctors. The prerequisites for entry would differ between the programme types. Nevertheless, programmes should meet the national academic and professional standards for practicing medicine and osteopathy in the country.

There is a minimum period of time needed to acquire an appropriate competency for safe practice, and programmes must include supervised clinical training and practice. Osteopathic skills and physical examination training must be delivered via direct contact. Other academic curricular content may be delivered through various pedagogues and educational formats. Training may be full-time, part-time or a combination.

#### **3.2.1. Full time training**

This is a standard full-time medical school curriculum integrated with training in the uniquely osteopathic components and the supporting materials. This is done through a vertically integrated curriculum, in which the student is introduced to basic science, biomechanical, medical, surgical, obstetrical, and osteopathic concepts at the early student didactic level. These concepts are then reinforced, expanded, and applied in closely supervised clinical settings. Finally the concepts are mastered, solidified, and used to create and administer complete patient treatment plans with supervision in a post-graduate medical training programme. At this point the physician is eligible to assume full scope of osteopathic and medical and/or surgical practice rights.

Full time osteopathic medical education requires more training time than that for a standard doctor of medicine program. Typically this is achieved through a longer curricular year, more years of study, or prerequisite education.

#### **3.2.2. Conversion programmes for medical doctors**

Conversion programmes are for medical doctors wishing to be trained in osteopathy. These programmes are part time lasting a minimum of four years,



or full-time equivalent. Distinctive cognitive and sensorimotor skills essential for the competent practice of osteopathic medicine differ from those used in standard medical practice(60). Conversion programmes emphasize the uniquely osteopathic components of the curriculum and the supporting materials. These programmes incorporate previously gained knowledge and training to help the student meet minimum competencies.

Individuals must have a full medical degree as a foundation for the conversion program in osteopathic medicine. In addition programmes may choose to have manual medicine certification as a prerequisite for entry, or prerequisite training in appropriate topics not covered in a standard medical curriculum.

The training will occur over a minimum of four years part time, or full-time equivalent, to allow for the development of appropriate sensorimotor skills. Part time programmes must provide supervised clinical training in appropriate osteopathic clinical sites, and full osteopathic curricular content. Graduates of part time programs must demonstrate the same minimum competencies as graduates of full time programs.

## **4. Common competencies shared by osteopaths and osteopathic physicians**

Osteopathic practitioners, (osteopath and osteopathic physician) share a set of core competencies that guide diagnosis, management and treatment of their patients and form the foundation for the osteopathic approach to health care. The following are essential competencies for osteopathic practice.

- A strong foundation in osteopathic history and philosophy and its approach to health care.
- An understanding of the basic sciences within the context of the philosophy of osteopathy and the five models of structure-function specifically the role of vascular, neurological, lymphatic and biomechanical factors in the maintenance of normal and adaptive biochemical, cellular and gross anatomical functions in states of health and disease.
- Ability to form an appropriate differential diagnosis and treatment plan.

- An understanding of the mechanisms of action of manual therapeutic interventions and the biochemical, cellular and gross anatomical response to therapy.
- Ability to critically appraise medical and scientific literature, and incorporate valid evidence into clinical practice.
- Competency in the palpatory and clinical skills necessary to diagnosis dysfunction in the aforementioned systems and tissues of the body, with an emphasis on osteopathic diagnosis.
- Competency in a broad range of osteopathic manipulative treatment (OMT) skills.
- Proficiency in physical examination and the interpretation of relevant tests and data, for example diagnostic imaging and laboratory results.
- An understanding of the biomechanics of the human body including but not limited to the articular, fascial, muscular and fluid systems of the extremities, spine, head, pelvis, abdomen and torso.
- Expertise in the diagnosis and osteopathic manipulative treatment of neuromusculoskeletal disorders.
- Thorough knowledge of the contraindications and indications for osteopathic treatment.
- Basic knowledge of commonly used traditional medicine and complementary/ alternative medicine.

## **5. Training of Osteopathic Physicians for Safe Practice**

### **5.1. Objective of Training as an Osteopathic Physician**

The aim of this level of training is to provide an integrated education in medical and osteopathic science and practice. Upon completion, the graduate will have clinical skills in medical (surgical) and osteopathic diagnosis and treatment which meet the minimum competencies for safe practice as a primary contact and primary health care provider capable of integrating the principles and application of the philosophy of osteopathy into the medical and/or surgical treatment of their patients. Because of their detailed medical knowledge base and practical skills, these physicians can adjust the medical and/or surgical treatment of their patients in response to the use of osteopathic manipulative treatment (see Annex IV).

### **5.2. Duration of training**

5.2.1. Programmes for individuals wishing to practice osteopathic medicine and having no prior training as physicians. These programmes reflect the national norms for full medical training including the integrated osteopathic philosophy, principles and practical skills in all medical subjects. These typically require minimum six years full time study or four years following the prerequisite requirement (usually a bachelor degree). Included in the total training time is two years, typically 4000-5000 contact hours, of supervised clinical training in osteopathic medicine.

5.2.2. Programmes for individuals wishing to practice osteopathic medicine and already trained as allopathic doctors, require four years part time or equivalent full-time study depending upon the prerequisite requirements. Supervised clinical training is a necessary part of the curriculum and is minimum of 1000 hours.

**5.3. Core topics for inclusion in training programmes for osteopathic physicians** (the method of delivery may vary however minimum competencies must be met.) A primary outcome of the training of osteopathic physicians is the ability to directly provide and tailor the medical and surgical care of their patients within the context of osteopathic principles and practice.

**5.3.1. Basic science**

History and philosophy of science; gross and functional anatomy including embryology, neuroanatomy, and visceral anatomy; histology and cellular physiology; advanced biochemistry, molecular biology, comprehensive immunology, microbiology (bacteriology, parasitology, virology); comprehensive genetics; advanced physiology with special emphasis on the neuroendocrine immune network, the autonomic nervous system, the arterial, lymphatic and venous systems, and the musculoskeletal system; basic neuroscience; biomechanics and kinetics.

**5.3.2. Clinical science**

Models of health and disease; population health and epidemiology; biostatistics; safety and ethics; nutrition; comprehensive pathology and pathophysiology; pharmacology; comprehensive pharmacotherapy and their osteopathic considerations; comprehensive interpretation, ordering and appropriately integrating osteopathic considerations into laboratory testing, imaging studies, and functional studies; utilization and interpretation of diagnostic screening procedures; integration of osteopathic findings into the evaluation and diagnostic process; medical, (surgical) and osteopathic management of urgent, acute, nonacute and chronic paediatric, adult and geriatric patients in an ambulatory and hospitalized setting; pharmacological, surgical, and medical therapeutic interventions pertaining to paediatric, adult and geriatric pathology and pathophysiology of the nervous system, dermatological system, musculoskeletal system, genitourinary system, psychiatric system, immunological system, haematological system, cardiovascular system, renal system, respiratory system, ophthalmologic system, gastrointestinal system, reproductive system, endocrine system, and otolaryngology system.

**5.3.3. Osteopathic science**

Philosophy of osteopathy and history; osteopathic models for structure/function interrelationships; clinical biomechanics, joint physiology and kinetics; mechanisms of action for osteopathic techniques.

**5.3.4. Clinical skills**

Using the osteopathic structure-function models to obtain and integrate age appropriate history and physical examination; generate the medical, and general surgical differential diagnosis and osteopathic diagnosis and treatment of disorders of the nervous, dermatological, reproductive, genitourinary, psychiatric, musculoskeletal, immunological, cardiovascular, respiratory, haematological, gastrointestinal, endocrine, renal, ophthalmologic, and otolaryngology systems; Applying the structure-function models for the synthesis of laboratory and imaging data; clinical problem solving and reasoning; evidenced based practice; communication and interviewing; clinical documentation; basic and advanced life support, acute trauma care.

### **5.3.5. Osteopathic skills**

Osteopathic diagnosis; osteopathic techniques including direct techniques such as high velocity low amplitude thrust, articulatory, general osteopathic technique, and muscle energy; indirect techniques including functional techniques, and counterstrain; balancing techniques such as balanced ligamentous tension, and ligamentous articulatory strain; combined techniques including Still technique, myofascial/fascial release, osteopathy in the cranial field, involuntary mechanism, and visceral techniques; reflex based techniques such as Chapman's reflexes, trigger points, neuromuscular techniques (NMT); and fluid based techniques such as lymphatic pump techniques (see Annex II).

## **5.4. Practical supervised clinical experience**

The development of clinical and manual skills require time and practice. Supervised clinical practice is an essential component of the training of osteopathic physicians. Practical supervised clinical experience should occur in an appropriate osteopathic clinical environment so that high quality clinical support and teaching is provided.

## **5.5. Examination**

The graduate needs to be able to demonstrate competencies for safe practice based upon a standard that is independent of the individual training programme. National standards and independent evaluations are mechanisms of ensuring objectivity in assessing a candidate's competency.

Ideally, standardized examinations of basic and clinical knowledge, and osteopathic and medical clinical skills should be required, in order to insure the public that all clinicians have met a uniform standard for qualification to enter into practice. Standardized examinations should meet minimum international

competencies for osteopathic physicians.

## **5.6 Post-doctoral/Post-degree training**

In some countries post-graduate residency programs are a component of training and may be necessary for practice. The duration of post-doctoral/post-degree training varies from country to country.

## **5.7. Continuing professional development**

Clinical and basic science knowledge evolves constantly and appropriate patient management requires maintenance of currency in knowledge and skills. Mandatory continuing professional evaluation, development and education after completion of studies ensures that practitioners maintain a current knowledge base and practice standards, an essential aspect of patient protection. Continuing professional development may be mandatory for maintenance of licensure.

# **6. Training Of Osteopaths**

## **6.1. Objective of training osteopaths**

The aim of this level of training is to provide an integrated education in osteopathic and general medical science. Upon completion, the graduate will have clinical skills in osteopathic and differential diagnosis and osteopathic treatment which meet the minimum competencies for safe practice as a primary contact health care practitioner capable of integrating the principles and application of the philosophy of osteopathy into the treatment of their patients.

The approach to education may vary between countries but the common competencies should be met regardless of whether the programme is full time, full time equivalent or conversion, and leads to a bachelors or masters level degree.

## **6.2. Duration of training**

6.2.1. Programmes for individuals wishing to practice as osteopaths and having no prior training as health care providers require a minimum of

four years full time or full-time equivalent. This is typically a minimum of 4300 student contact hours including 1000 hours of supervised clinical training.

6.2.2. Conversion programmes for individuals wishing to practice as osteopaths and having prior training as health care provider require a minimum of five years part time or equivalent full-time training depending upon prior knowledge and training. Supervised osteopathic clinical training in appropriate osteopathic clinical sites is necessary for safe practice. This is typically 1000 hours although depending upon the individual's prior training, more or less time may be needed.

**6.3. Core topics for inclusion in training programme of osteopaths** (the method of delivery may vary depending upon the programme, however minimum competencies must be met.)

While training of the osteopath focuses on those subjects and skills that form the basis for the osteopathic approach, basic knowledge and understanding of the common standard medical and surgical treatments available to the patient is necessary for competent practice as a primary contact health care practitioner. In addition, the practicing osteopath must also understand the rationale behind medical and surgical treatment protocols, how the body responds to these treatments, and how those protocols may influence the selection and implementation of the osteopathic treatment.

All elements of the curriculum are delivered in the context of focusing on the patient rather than their disease, viewing the patient as someone who seeks the facilitation of their optimum health, and on the importance of the patient and practitioner forming a therapeutic partnership.

#### **6.3.1. Basic science**

History and philosophy of science; gross and functional anatomy, including embryology, neuroanatomy and visceral anatomy; fundamental bacteriology, fundamental biochemistry, fundamental cellular physiology; physiology with special emphasis on the neuroendocrine immune network, the autonomic nervous system, the arterial, lymphatic and venous systems, and the musculoskeletal system; biomechanics and kinetics

#### **6.3.2. Clinical science**

Models of health and disease; safety and ethics; basic pathology and

pathophysiology of the nervous, musculoskeletal, psychiatric, cardiovascular, pulmonary, gastrointestinal, reproductive, genitourinary system, immunological, endocrine and otolaryngology systems; basic orthopaedic diagnosis; basic radiology; nutrition; basic emergency care.

### **6.3.3. Osteopathic science**

Philosophy of osteopathy and history; osteopathic models for structure/function interrelationships; clinical biomechanics, joint physiology and kinetics; mechanisms of action for osteopathic techniques.

### **6.3.4. Clinical skills**

Obtaining and integrating age appropriate history; physical and clinical examination, osteopathic diagnosis and differential diagnosis of the nervous, musculoskeletal, psychiatric, cardiovascular, pulmonary, gastrointestinal, endocrine, genitourinary, immunological, reproductive, and otolaryngology systems; general synthesis of basic laboratory, and imaging data; clinical problem solving and reasoning; evidence based practice; communication and interviewing; clinical documentation; basic life support and first aid care.

### **6.3.5. Osteopathic skills;**

Osteopathic diagnosis and osteopathic techniques including direct techniques such as high velocity low amplitude thrust, articulatory, general osteopathic technique, and muscle energy; indirect techniques including functional techniques, counterstrain; balancing techniques including balanced ligamentous tension, and ligamentous articulatory strain; combined techniques including myofascial/fascial release, Still technique, osteopathy in the cranial field, involuntary mechanism, and visceral techniques; reflex based techniques such as Chapman's reflexes, triggerpoints, neuromuscular techniques (NMT); and fluid based techniques such as lymphatic pump techniques (see Annex II).

## **6.4. Practical supervised clinical experience**

The development of clinical and manual skills require time and practice. Supervised clinical practice is an essential component of the training of osteopaths. Practical supervised osteopathic clinical experience should occur in an appropriate osteopathic clinical environment so that high quality clinical support and teaching is provided. This includes a minimum of 1,000 supervised clinical hours.



## **6.5. Examination**

The graduate needs to be able to demonstrate competencies for practice based upon a standard that is independent of the individual training programme. Standards and independent evaluations are a mechanism of ensuring objectivity in assessing a candidate's competency. Ideally, externally moderated examinations of both knowledge and clinical skills should be required, in order to ensure that all practitioners have met a minimum standard for qualification to enter into practice.

## **6.6. Continuing professional development**

Clinical and basic science knowledge evolves constantly and appropriate patient management requires maintenance of currency in knowledge and skills. Mandatory continuing professional evaluation, development and education after completion of studies ensures that practitioners maintain a current knowledge base and practice standards, an essential aspect of patient protection. Continuing professional development may be mandatory for maintenance of licensure.

## **Part 2: Guidelines On Safety Of Osteopathy**

### **1. Introduction**

The indication for osteopathic treatment is the presence of somatic dysfunction that is clinically significant. Clinical significance is determined using the structure-function models of osteopathic practice described in the introductory section.

Osteopathic practitioners have responsibility to diagnose and refer patients as appropriate when the patient's condition requires therapeutic intervention, which falls outside the practitioner's competence. Both osteopaths and osteopathic physicians need to recognize when specific approaches and techniques may be contraindicated in specific conditions.

It is important to understand that a contraindication to osteopathic manipulative treatment in one area of the body may not preclude osteopathic treatment in a different area. Likewise, a contraindication for any specific technique does not negate the appropriateness of a different type of technique in that same patient. Absolute and relative contraindications for osteopathic manipulative treatment are usually based upon the technique employed. It is the responsibility of the osteopathic practitioner to discern which types of techniques are safe and appropriate in a clinical situation.

Techniques can be categorized as direct, indirect, combined, fluid and/or reflex based(26). Direct techniques, such as muscle energy, thrust and articulatory manoeuvres, pose different risks than indirect, fluid and reflex based techniques. There is scant data published that details which techniques should be avoided in specific conditions. An understanding of the pathophysiology of the patient's condition and the mechanism of action of the technique have been used to establish biological plausibility for the absolute and relative contraindications listed.

## 2. Contraindications

Patient refusal or absence of informed consent is an absolute contraindication to the application of any technique or treatment. Significant adverse response to prior treatment or the initiation of any technique is an absolute contraindication to the completion of that specific technique.

### 2.1. Direct techniques

Direct techniques may be applied specifically to a joint or non-specifically to a body area. Direct techniques engage the restrictive barrier. Direct techniques may use thrust, impulse, muscle contraction, fascial loading, or passive range of motion to achieve the tissue response. Often an area that should not be treated using a direct technique may safely and effectively be treated using an alternative technique approach, e.g., indirect, fluid or reflex based.

#### 2.1.1. Absolute contraindications to any direct technique (systemic conditions):

- suspected bleeding disorder
- prolonged bleeding times
- anticoagulant pharmacotherapy without recent evaluation of therapeutic level .
- clotting abnormalities
- congenital or acquired connective tissue diseases that result in compromised tissue integrity
- compromised bone, tendon, ligament or joint integrity as might occur in metabolic disorders, metastatic disease, and/or rheumatoid diseases

#### 2.1.2. Relative contraindications to direct technique (systemic)

- osteoporosis
- osteopenia

#### 2.1.3. Absolute contraindications to direct techniques specifically applied at the local site

- aortic aneurysm
- open wounds, skin derangement, recent surgery
- acute hydrocephalus
- hydrocephalus without diagnostic workup
- acute intracerebral bleed
- acute cerebral ischemia, including transient
- suspected cerebral arterial-venous malformation
- cerebral aneurysm

- acute abdomen
- acute cholecystitis with suspected leakage or rupture
- acute appendicitis with suspected leakage or rupture
- acute or subacute closed head injury
- acute intervertebral disc herniation with progressive neurological signs
- suspicion or evidence of vascular compromise
- suspected vertebral artery compromise
- known congenital malformation
- acute cauda equina syndrome
- ocular lens implant (early post-operative period)
- uncontrolled glaucoma
- neoplasm
- suspected or risk of bone compromise such as osteomyelitis, boney tuberculosis, etc.

**2.1.4. Absolute contraindications to direct techniques specifically involving thrust or impulse applied at the local site:**

- specific technique at the site of surgical internal fixation of the joint
- compromised bone or joint stability as might occur focally in neoplasm, metastatic disease, suppurative arthritis, septic arthritis, rheumatoid diseases, osteomyelitis, boney tuberculosis, etc.
- acute fractures
- boney or intramuscular hematoma or abscess

**2.1.5. Relative contraindications to direct techniques using thrust or impulse at the local site:**

- intervertebral disc herniation
- strained ligaments at the site
- acute acceleration-deceleration injury of the neck

**2.2. Indirect, fluid, balancing, and reflex based techniques:**

Indirect, fluid, balancing, or reflex based techniques may be applied specifically to a joint or non-specifically to a body area. These techniques do not engage the restrictive barrier. These techniques may include fascial and soft-tissue loading or unloading, hydraulic pressures, phases of respiration, cranial or postural adjustments as part of the application of the technique. Relative contraindications to indirect techniques usually concern the clinical-temporal profile of the problem.

**2.2.1. Absolute contraindications to indirect, fluid, balancing, or reflex based techniques applied at the local site**

- acute hydrocephalus without diagnostic workup
- acute cerebral bleed

- acute intracerebral vascular accident
- suspected cerebral arterial-venous malformation
- cerebral aneurysm
- suspected acute peritonitis
- acute appendicitis or other visceral disease with suspected leakage or rupture
- recent closed head injury with suspected internal derangement

**2.2.2. Relative contraindications to any indirect, fluid, balancing, or reflex based technique applied at the local site**

- metastatic disease
- neoplasm
- acute closed head injury

### **3. Accidents and reported complications:**

In general osteopathic manipulation appears to be a safe, effective and conservative means of treatment. Osteopathic manipulative treatment appears to be safe in children. In a report of 55 patients, three patients reported mild adverse reactions to indirect technique (61).

Although reviews have been published suggesting that the incidence of complications with spinal manipulation in adults is under reported(62), most authors conclude that severe complications are rare(6-8;63). Position papers, which included a thorough review of the literature, have been adopted by national osteopathic organizations. These papers concluded that osteopathic manipulation including high velocity/low amplitude manipulative treatment is a safe and effective treatment for uncomplicated neck pain when used appropriately, especially in comparison to other common treatments, such as nonsteroidal anti-inflammatory pharmaceuticals(64;).

### **4. First Aid Training**

Basic emergency life support and first aid training is a mandatory component of any health care practitioner's training and can be either incorporated into the core curriculum or a prerequisite for practice. Additionally, maintenance of competencies and currency of knowledge require periodic retraining and examination of the relevant skills and knowledge.

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# Annex I

## Overview of Possible Degree Programmes

Degree programmes vary from country to country. The following programmes are examples that have attained governmental recognition in some countries.

### 1.1. Osteopath

**1.1.1 Bachelors degree level osteopath:** four-year full time or full time equivalent to obtain an osteopath bachelors level degree to be an osteopath.

**1.1.2.Masters degree level osteopath:** usually one to two years following a bachelors level degree to be an osteopath

### 1.2. Osteopathic Physician

**1.2.1. Direct osteopathic physician training:** full time medical programme integrating medical and osteopathic training throughout all aspects of the program.

**1.2.1.1.** With prerequisite of bachelor level degree training (3-4years), a four-year full time programme follows to obtain an integrated osteopathic and medical degree as an osteopathic physician.

**1.2.1.2.** Without prerequisite of bachelor level degree training in basic science a six-year programme follows to obtain integrated medical and osteopathic medicine degree as an osteopathic physician.

**1.2.2. Post-doctoral(post-registration/license)level osteopathic physician;** full or part time conversion programme for medical doctors

## Annex II

### Examples of general techniques in minimum osteopathic training

**Osteopathic Manipulative Treatment (OMT):** The therapeutic application of manually guided forces by an osteopathic physician (US Usage) to improve physiologic function and/or support homeostasis that has been altered by somatic dysfunction. OMT employs a variety of techniques including:

**Active method,** technique in which the person voluntarily performs an osteopathic clinician-directed motion.

**Articulatory treatment system (ART) Articulatory treatment,** (archaic), a low velocity/moderate to high amplitude technique where a joint is carried through its full motion with the therapeutic goal of increased range of movement. The activating force is either a repetitive springing motion or repetitive concentric movement of the joint through the restrictive barrier.

**Balanced ligamentous tension (BLT),** 1. According to Sutherland's model, all the joints in the body are balanced ligamentous articular mechanisms. The ligaments provide proprioceptive information that guides the muscle response for positioning the joint and the ligaments themselves guide the motion of the articular components. (Foundations) 2. First described in "Osteopathic Technique of William G. Sutherland", that was published in the *1949 Year Book of Academy of Applied Osteopathy*. See also *ligamentous articular strain*.

**Combined method, Combined treatment,** (archaic) 1. A treatment strategy where the initial movements are indirect; as the technique is completed the movements change to direct forces. 2. A manipulative sequence involving two or more different osteopathic manipulative treatment systems (e.g., Spencer technique combined with muscle energy technique). 3. A concept described by Paul Kimberly, DO.

**Compression of the fourth ventricle (CV-4),** a cranial technique in which the lateral angles of the occipital squama are manually approximated slightly exaggerating the posterior convexity of the occiput and taking the cranium into sustained extension.

**Counterstrain (CS),** 1. A system of diagnosis and treatment that considers the dysfunction to be a continuing, inappropriate strain reflex, which is inhibited

by applying a position of mild strain in the direction exactly opposite to that of the reflex; this is accomplished by specific directed positioning about the point of tenderness to achieve the desired therapeutic response. 2. Australian and French use: Jones technique, (correction spontaneous by position), spontaneous release by position. 3. Developed by Lawrence Jones, DO.

**Cranial treatment (CR)**, See *primary respiratory mechanism*. See *osteopathy in the cranial field*.

**CV-4**. Abbreviation for compression of the fourth ventricle. See *osteopathic manipulative treatment, compression of the fourth ventricle*.

**Dalrymple treatment**, See *osteopathic manipulative treatment, pedal pump*.

**Direct method (D/DIR)**, an osteopathic treatment strategy by which the restrictive barrier is engaged and a final activating force is applied to correct somatic dysfunction.

**Exaggeration method**, an osteopathic treatment strategy by which the dysfunctional component is carried away from the restrictive barrier and beyond the range of voluntary motion to a point of palpably increased tension.

**Exaggeration technique**, an indirect procedure that involves carrying the dysfunctional part away from the restrictive barrier, then applying a high velocity/low amplitude force in the same direction.

**Facilitated positional release (FPR)**, a system of indirect myofascial release treatment. The component region of the body is placed into a neutral position, diminishing tissue and joint tension in all planes, and an activating force (compression or torsion) is added. 2. A technique developed by Stanley Schiowitz, DO.

**Fascial release treatment**, See *osteopathic manipulative treatment, myofascial release*.

**Fascial unwinding**, a manual technique involving constant feedback to the osteopathic clinician who is passively moving a portion of the patient's body in response to the sensation of movement. Its forces are localized using the sensations of ease and bind over wider regions.

**Functional method**, an indirect treatment approach that involves finding the dynamic balance point and one of the following: applying an indirect guiding force, holding the position or adding compression to exaggerate position and allow for spontaneous readjustment. The osteopathic clinician guides the

manipulative procedure while the dysfunctional area is being palpated in order to obtain a continuous feedback of the physiologic response to induced motion. The osteopathic clinician guides the dysfunctional part so as to create a decreasing sense of tissue resistance (increased compliance).

**Galbreath treatment**, See *osteopathic manipulative treatment, mandibular drainage*.

**Hepatic pump**, rhythmic compression applied over the liver for purposes of increasing blood flow through the liver and enhancing bile and lymphatic drainage from the liver.

**Hoover technique**: 1. A form of functional method. 2. Developed by H.V. Hoover, DO. See Also osteopathic manipulative treatment, functional technique.

**High velocity low amplitude (HVLA)**: a direct technique in which a short rapid thrust is applied to bring the joint through a restrictive barrier.

**Indirect method (I/IND)**, a manipulative technique where the restrictive barrier is disengaged and the dysfunctional body part is moved away from the restrictive barrier until tissue tension is equal in one or all planes and directions.

**Inhibitory pressure technique**, the application of steady pressure to soft tissues to reduce reflex activity and produce relaxation.

**Integrated neuromusculoskeletal release (INR)**, a treatment system in which combined procedures are designed to stretch and reflexly release patterned soft tissue and joint-related restrictions. Both direct and indirect methods are used interactively.

**Jones technique**, See *osteopathic manipulative treatment, counterstrain*.

**Ligamentous articular strain technique (LAS)**, 1. A manipulative technique in which the goal of treatment is to balance the tension in opposing ligaments where there is abnormal tension present. 2. A set of myofascial release techniques described by Howard Lippincott, DO, and Rebecca Lippincott, DO. 3. Title of reference work by Conrad Speece, DO, and William Thomas Crow, DO, FAAO.

**Liver pump**, See *hepatic pump*

**Lymphatic pump**, 1. A term used to describe the impact of intrathoracic pressure changes on lymphatic flow. This was the name originally given to the thoracic pump technique before the more extensive physiologic effects of the

technique were recognized. 2. A term coined by C. Earl Miller, DO.

**Mandibular drainage technique**, soft tissue manipulative technique using passively induced jaw motion to effect increased drainage of middle ear structures via the eustachian tube and lymphatics.

**Mesenteric release technique (mesenteric lift)**, technique in which tension is taken off the attachment of the root of the mesentery to the posterior body wall. Simultaneously, the abdominal contents are compressed to enhance venous and lymphatic drainage from the bowel.

**Muscle energy**, 1. A system of diagnosis and treatment in which the patient voluntarily moves the body as specifically directed by the osteopathic clinician. This directed patient action is from a precisely controlled position against a defined resistance by the osteopathic clinician. 2. Refers to a concept first used by Fred L. Mitchell, Sr, DO, originally called muscle energy treatment.

**Myofascial release (MFR)**, a system of diagnosis and treatment first described by Andrew Taylor Still and his early students, which engages continual palpatory feedback to achieve release of myofascial tissues.

**direct MFR**, a myofascial tissue restrictive barrier is engaged for the myofascial tissues and the tissue is loaded with a constant force until tissue release occurs.

**indirect MFR**, the dysfunctional tissues are guided along the path of least resistance until free movement is achieved.

**Myofascial technique**, any technique directed at the muscles and fascia. See also *osteopathic manipulative treatment*, *myofascial release*. See also *osteopathic manipulative treatment*, *soft tissue technique*.

**Myotension**, a system of diagnosis and treatment that uses muscular contractions and relaxations under resistance of the osteopathic clinician to relax, strengthen or stretch muscles, or mobilize joints.

**Osteopathy in the Cranial Field (OCF)**. 1. A system of diagnosis and treatment by an osteopathic clinician using the primary respiratory mechanism and balanced membranous tension. See also *primary respiratory mechanism*. 2. Refers to the system of diagnosis and treatment first described by William G. Sutherland, DO. 3. Title of reference work by Harold Magoun, Sr, DO.

**Passive method**, based on techniques in which the patient refrains from voluntary muscle contraction.

**Pedal pump**, a venous and lymphatic drainage technique applied through the lower extremities; also called the pedal fascial pump or Dalrymple treatment.

**Percussion vibrator technique**, 1. A manipulative technique involving the specific application of mechanical vibratory force to treat somatic dysfunction. 2. An osteopathic manipulative technique developed by Robert Fulford, DO.

**Positional treatment**, a direct segmental technique in which a combination of leverage, patient ventilatory movements and a fulcrum are used to achieve mobilization of the dysfunctional segment. May be combined with springing or thrust technique.

**Progressive inhibition of neuromuscular structures (PINS)**, 1. A system of diagnosis and treatment in which the osteopathic clinician locates two related points and sequentially applies inhibitory pressure along a series of related points. 2. Developed by Dennis Dowling, DO.

**Range of motion technique**, active or passive movement of a body part to its physiologic or anatomic limit in any or all planes of motion.

**Soft tissue (ST)**, A system of diagnosis and treatment directed toward tissues other than skeletal or arthroal elements.

**Soft tissue technique**, a direct technique that usually involves lateral stretching, linear stretching, deep pressure, traction and/or separation of muscle origin and insertion while monitoring tissue response and motion changes by palpation. Also called myofascial treatment.

**Spencer technique**, a series of direct manipulative procedures to prevent or decrease soft tissue restrictions about the shoulder. See also *osteopathic manipulative treatment (OMT)*, *articular treatment (ART)*

**Splenic pump technique**, rhythmic compression applied over the spleen for the purpose of enhancing the patient's immune response. See also *osteopathic manipulative treatment (OMT)*, *lymphatic pump*.

**Spontaneous release by positioning**, See *osteopathic manipulative treatment*, *counterstrain*.

**Springing technique**, a low velocity/ moderate amplitude technique where the restrictive barrier is engaged repeatedly to produce an increased freedom of motion. See also *osteopathic manipulative treatment*, *articular treatment system*.

**Still Technique**, 1. Characterized as a specific non-repetitive articular



method that is indirect then direct. 2. Attributed to A.T. Still. 3. A term coined by Richard Van Buskirk, DO, PhD.

**Thoracic pump**, 1. A technique, that consists of intermittent compression of the thoracic cage. 2. Developed by C. Earl Miller, DO

**Thrust treatment (HVLA)**, a direct technique that uses high velocity/low amplitude forces. Also called mobilization with impulse treatment.

**Toggle technique**, short lever technique using compression and shearing forces.

**Traction treatment**, a procedure of high or low amplitude in which the parts are stretched or separated along a longitudinal axis with continuous or intermittent force.

**V-spread**, technique using forces transmitted across the diameter of the skull to accomplish sutural gapping.

**Ventral techniques**, See *osteopathic manipulative treatment, visceral manipulation*.

**Visceral manipulation (VIS)**, a system of diagnosis and treatment directed to the viscera to improve physiologic function. Typically, the viscera are moved towards their fascial attachments to a point of fascial balance. Also called ventral techniques.

## Annex III

### Sample Full time Osteopathic Medicine Curriculum (contact hours)

**Completed as prerequisites or pre-osteopathic training:** general biology, cellular biology, physics, organic chemistry, inorganic chemistry and general biochemistry, statistics, genetics, calculus, vertebrate anatomy, general microbiology, and general immunology. **Post-graduate:** following completion of this course of study a minimum of three years supervised clinical training should occur.

Topics	Year 1	Year 2	Years 3 and 4
<b>Basic science</b>	Gross anatomy 220 Histology 70 Embryology 30 Immunology 22 Biochemistry 70 Physiology 100 Pharmacology 33 Virology 17 Parasitology 13 Bacteriology 95	Neuroanatomy 50 Pharmacology 65 Molecular - Biochemistry Genetics 40	
<b>Osteopathic science</b>	History and philosophy 12 Biomechanics 20 Normal joint physiology 20 Principles of techniques 10 Autonomic nervous system 12	Clinical application of techniques 30 Somato-visceral integration 6 Neuroendocrine immune system 6 Contraindications and Indications of specific techniques 5 Integrating technique into primary health care Radiology 5	Evidenced Based Evaluation throughout
<b>Osteopathic skills</b>	Palpatory diagnosis 60 Osteopathic technique: Direct and indirect techniques 66	Osteopathic technique: Fluid, balancing, reflex based techniques 76 Injection therapy 6	Osteopathic treatment of hospitalized patients throughout Osteopathic treatment of ambulatory patients throughout.
<b>Clinical skills/practice</b>	Basic life support 8 Pharmacotherapeutics 65 Pathology 56 Med jurisprudence 20 Population health 24 Nutrition 20 Physical	Nervous system 122 Psychiatric system 32 Musculoskeletal syst 76 Respiratory system 60 Haematology system 57 Gastrointestinal system 61 Cardiovascular system 79 Renal system 43	Internal medicine 960 Surgery 600 Paediatrics 360 Obstetrics 360 Family medicine 720 Psychiatry 360 Rural medicine 360 Emergency med 360

	examination(60) Surface anatomy (15) Laboratory science (10)	Reproductive system 82 Endocrine system 38 Emergency medicine 40 Advanced life support 22 Dermatology syst. 32 Clinical patient care 345	Hospital specialty based osteopathic manipulation 360 Elective clinical disciplines 720 Radiology 120
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## Annex IV

### Sample full time training programme in osteopathy - leading to masters degree

Topic	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Basic science/ Preclinical studies</b>	General anatomy 120 Physiology 60 Bioscience 120	Anatomy 120 Physiology 120 Biomechanics 60 Biochemistry 60 Immunology 60	Pathology 60 Neuro/ Physiology 60 General anatomy Advanced Biomechanics	Evidence based med 45 Applied anatomy Pathology	
<b>Clinical science</b>	Sociology/ Psychology 60 Medical humanities 60	Communication skills 60	Clinical pathology 60 Neurology/ Pain 60 Pharmacology 60 Research methods 60		Profess practice 60
<b>Osteopathic science/Skills</b>	Osteopathic principles and practice 180	Osteopathic principles and practice 180	Osteopathic principles and practice 180	Osteopathic med 90 Osteo treatment andpt. Management 100	Osteo med 45 Advanced osteo practice 45 Osteo treatment andpt. Management 120
<b>Clinical skills</b>			Clinical skills and diagnosis 180	Supervised Practice 400	Supervised clinical practice 500
<b>Research</b>				Research project 60	Research project 60

# Annex V

## Bachelors Degree in Osteopathy – sample programme

	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year
<b>Scientific and Professional Underpinning Studies</b>	Anatomy (150) Healthcare Studies and other Health Care Systems (5) ICT Skills (2) Principles and Philosophy of Osteopathy (100) Neurology/neuroscience (32) Peripheral and Spinal Biomechanics (26) Physiology (140) Biochemistry (60) Nutrition (40) Palpatory Skills and Diagnosis (40) Psychology/Psychosomatics (5) Sociology (8)	Anatomy (70) Sociology (16) Healthcare Studies and other Health Care Systems (12) Principles and Philosophy of Osteopathy (50) Neurology/neuroscience (12) Pathology (50) Peripheral and Spinal Biomechanics (100) Applied Physiology (140) Exercise Physiology (10) Emergency Support Skills/First Aid (10) Clinical Methods and Procedures (60) Palpatory Skills and Diagnosis (34) Psychology/Psychosomatics (10)	Anatomy (40) Healthcare Studies and other Health Care Systems (8) Pathology (18) Peripheral and Spinal Biomechanics (100) Pharmacology (20) Principles and Philosophy of Osteopathy (21) Physiology (6) Neurology/neuroscience (24) Clinical Laboratory Techniques (4) Palpatory Skills and Diagnosis (6) Sociology (4) Psychology/Psychosomatics (100)	Anatomy (6) Principles and Philosophy of Osteopathy (11) Pathology (15) Peripheral and Spinal Biomechanics (9) Pharmacology (40)
<b>Research Studies</b>	Research Methodology (quantitative and qualitative) including critical analysis and evidence-based practice (5)	Research Methodology (quantitative and qualitative) (18) Critical Analysis (7) Research Ethics (4)	Research Methodology (quantitative and qualitative) including statistics (36) Critical Analysis (10) Dissertation/Research Paper (100)	Research Methodology (quantitative and qualitative) (29) Critical Analysis (5) Dissertation/Research Paper (200)
<b>Clinical/Professional Studies</b>	Applied Clinical Osteopathy (26) Radiological diagnosis and Clinical Imaging (6) Orthopaedics and Trauma (8) Case Analysis Studies (6) Professional Practice Management (2) Obstetrics and Gynaecology (4) Paediatrics and Osteopathic Care of Children (4) Osteopathic Technique (150)	Case History Taking and patient communication (9) Applied Clinical Osteopathy (20) Differential and Clinical Diagnosis and Clinical Problem Solving (20) Radiological diagnosis and Clinical Imaging (20) Orthopaedics and Trauma (14) Case Analysis Studies (15) Osteopathic Evaluation and Patient Management (38) Professional Ethics (6) Osteopathic Technique (150) Nutrition & Clinical Dietetics (6)	Case History Taking and patient communication (7) Differential and Clinical Diagnosis and Clinical Problem Solving (100) Professional Ethics (6) Radiological diagnosis and Clinical Imaging (50) Orthopaedics and Trauma (60) Paediatrics and Osteopathic Care of Children (100) Osteopathic Sports Care (20) Case Analysis Studies (18) Applied Clinical Osteopathic Technique (150) Ergonomics (10) Osteopathic Evaluation and Patient Management (including reflective practice) (13) Gynaecology and Obstetrics (40) Rheumatology (12) Osteopathic Care of the Elderly (12)	Case History Taking and patient communication (6) Differential and Clinical Diagnosis and Clinical Problem Solving (20) Professional Ethics (8) Radiological diagnosis and Clinical Imaging (18) Gynaecology and Obstetrics (12) Dermatology (20) Orthopaedics and Trauma (6) Case Analysis Studies (9) Paediatrics and Osteopathic Care of Children (12) Applied Clinical Osteopathic Technique (150) Professional Practice Management (50) Osteopathic Evaluation and Patient Management (18)

			Nutrition & Clinical Dietetics (6)	
<b>Osteopathic Clinical Practice</b>	Closely Supervised Osteopathic Clinical Practice in Suitable Clinical Environment(s) (20)	Closely Supervised Osteopathic Clinical Practice in Suitable Clinical Environment(s) (140)	Closely Supervised Osteopathic Clinical Practice in Suitable Clinical Environment(s) (470)	Closely Supervised Clinical Practice in Suitable Clinical Environment(s) (580)