

Introduction

As more people turn to complementary and alternative health care to meet their various health-care needs, the use of naturopathic approaches continues to grow in popularity (1,2,3). This document begins with a brief overview of the naturopathic profession, including a discussion of terminology, followed by a summary of the principles that inform naturopathic practice. It is recognized that naturopathic practice may include additional roles, including the distribution of naturopathic products. However, these additional roles are considered beyond the scope of this document, which aims only to outline benchmarks for the training of practitioners, considered adequate by the community of practitioners, experts and regulators of naturopathy.

In general, naturopathy emphasizes prevention, treatment and the promotion of optimal health through the use of therapeutic methods and modalities which encourage the self-healing process – the *vis medicatrix naturae*. The philosophical approaches of naturopathy include prevention of disease, encouragement of the body's inherent healing abilities, natural treatment of the whole person, personal responsibility for one's health, and education of patients in health-promoting lifestyles. Naturopathy blends centuries-old knowledge of natural therapies with current advances in the understanding of health and human systems. Naturopathy, therefore, can be described as the general practice of natural health therapies.

This document provides benchmarks for basic training of practitioners of naturopathy; models of training for trainees with different backgrounds; and a review of what the community of practitioners of naturopathy considers as contraindications, so as to promote safe practice of naturopathy and minimize the risk of accidents. Together, these can serve as a reference for national authorities in establishing systems of training, examination and licensure which support the qualified practice of naturopathy.

1. Origin and principles of naturopathy

Many of the philosophical principles that underpin naturopathic practice can be traced to the teachings of Stoicism in ancient Greece and the practice of medicine in the Hippocratic schools. In addition to these ancient roots, naturopathic practice emerged from an amalgamation of the philosophy, techniques, science and principles that typified the alternative healing systems of the eighteenth and nineteenth centuries, particularly those related to vitalism (4). These alternative approaches tended to focus both on health promotion and on health-care regimes that supported the patient's innate healing processes.

Some of the founding influences that defined naturopathic philosophy and practice include (5,6):

- the hydrotherapy techniques of Vincent Priessnitz (1799-1851) and Father Sebastian Kneipp (1821-1897) in Europe, and John Harvey Kellogg (1852-1943) in North America;
- the Thomsonian method of Samuel Thomson (1769-1843) that foreshadowed physiomedicalism, from which some forms of modern phytotherapy emerged;
- the nature cure methods of Dr Louis Kuhne (1823-1907), Dr Arnold Rickli (1823-1926), and Dr Henry Lindlahr (1862-1924) that emphasized healthy lifestyles, sunlight and fresh air, vegetarianism and detoxification;
- homeopathy, derived by Christian Friedrich Samuel Hahnemann (1755-1843);
- the Eclectic school of medicine of Dr Wooster Beach (1794-1868), which employed botanical medicines;
- the philosophy of vitalism, which maintained that the body has an innate intelligence that strives constantly for health, so that the practitioner's role is to assist these efforts by cooperating with the healing powers of nature active within the body;
- schools of manipulative therapies, such as osteopathy, developed by Dr Andrew Taylor Still (1828-1917), and chiropractic, developed by Daniel David Palmer (1845-1913).

In Europe, the naturopathic approach to health care tended to evolve from the hydrotherapy and nature cure practices that had been developed by Priessnitz, Kneipp, Kuhne and Rickli. In North America, Dr Benedict Lust is described as establishing naturopathy in 1902, deriving it from nature cure (7). Naturopathy has been regulated in various regions of Europe and North America since the 1920s. The practice of naturopathy can vary widely, depending on the history of its evolution, the legislation affecting its practice, and the demands of the public for traditional medicine and complementary and alternative medicine (TM/CAM) in the relevant jurisdiction.

From the mid-1960s into the 1980s, naturopathy enjoyed a renaissance as the public in many parts of the world became disenchanted with so-called "western" medical practices and more interested in holistic health-care practices that

emphasize healthy lifestyles as well as health promotion and disease prevention (8). Various modalities exist (see Box 1). As universities began to emphasize the need for credible research and scientific validation in every discipline and the demand for “evidence-based medicine” continued to grow, naturopathic practitioners continued their support for high academic standards and sound curricula to pursue the scientific confirmation of naturopathic methods. For instance, an international council for the accreditation of naturopathic colleges was established in North America (9) as well as a central agency to examine the graduates of naturopathic colleges (10,11). These efforts at formalizing and universalizing standards of naturopathic education and practice established new benchmarks and intensified discussion concerning the identity of the profession.

Box 1 - Common naturopathic modalities (non-exhaustive list)

The following non-exhaustive list shows the modalities most commonly used in naturopathic practice:

- acupuncture
- botanical medicine
- counselling
- homeopathy
- hydrotherapy
- naturopathic osseous manipulation
- nutrition
- physical therapies (e.g. soft tissue massage, electrotherapy, etc.)

The principles that inform naturopathy can be summarized as follows:

- “first, do no harm”
- act in cooperation with the healing power of nature
- seek, identify and treat the fundamental cause of the illness
- treat the whole person using individualized treatment
- teach the principles of healthy living and preventive health care

While the emphasis placed on these principles can vary within naturopathy, each version generally captures the same underlying philosophy and goals.

First, do no harm

Although a seemingly obvious statement that would be echoed by any health-care practitioner, the dictum attributed to the classical physician Hippocrates, that physicians should “do no harm” to their patients, has specific resonance in naturopathy. As in most health-care professions, investigative methods and therapeutic modalities that do the least harm to the patient are preferred. When other health-care approaches are required because of the patient’s illness, naturopathic practitioners are trained to recognize this situation and to refer patients to those who can provide the needed care (12).

Act in cooperation with the healing power of nature

The Stoics of ancient Greece believed that there was an animating principle, *logos*, that acted as a vital force to order the universe. If humans used their rational abilities to bring their behaviour into harmony with this order, they would

flourish. Naturopathy, adopting this Stoic philosophy, recognizes that the same power that made the body – i.e. an innate intelligence active both in the universe and within the human body – would also heal the body unless prevented from doing so. By working with this healing power of nature – i.e. working with the *vis medicatrix naturae* of the patient – rather than trying to impose a treatment without regard for the person's own intrinsic ability to heal, the naturopathic practitioner seeks to assist the body, mind and spirit of the patient to bring about the desired healing (13).

Seek, identify and treat the fundamental cause of the illness

For every problem, there is a cause. Naturopathic practitioners are more interested in seeking, identifying and treating the cause than in treating the symptoms of illness. They argue that if the symptom of a disease is temporarily eliminated or suppressed but the underlying cause is neglected, then the problem will simply return, or could even worsen in the interim. The cause of illness must be identified and eliminated if true healing is to occur. This often requires a thorough examination of the patient's lifestyle, diet and vital force (14).

Treat the whole person using individualized treatment

Naturopathic practitioners work with a holistic understanding of human health. They recognize that humans are most likely to experience optimal health when their physical, psychological, spiritual and environmental dimensions are holistically integrated. People who exhibit integrated health are better able to realize their goals and actualize their potential. They are more likely to be in harmony within themselves, with others and with their environment. Because each person is different, the naturopathic practitioner must individualize treatments to meet the unique needs of each patient (15).

Teach the principles of healthy living and preventive health care

Naturopathic practitioners teach the principles of healthy living and preventive health care. They teach patients the causes of illnesses so that the patients are better able to avoid recurrences. Furthermore, patients should be involved in the therapeutic process so that they can engage in their own recovery and learn to take responsibility for their future health. This cooperative approach between the practitioner and patient has been shown to empower the patient, which provides further benefit. It is also more likely to engender a positive attitude in the patient, which is believed to improve the chances of optimal recovery (16).

2. Training of naturopathic practitioners

Regulating the practice of naturopathy and preventing practice by unqualified practitioners requires a proper system of training, examination and licensing. Benchmarks for training have to take into consideration the following:

- content of the training;
- method of the training;
- to whom the training is to be provided and by whom;
- the roles and responsibilities of the future practitioner;
- the level of education required in order to undertake training.

Naturopathy experts distinguish two types of naturopathic training in function of prior training and clinical experience of trainees.

Type I training programmes are aimed at those who have no prior medical or other health-care training or experience. They are designed to produce naturopathic practitioners who are qualified to practise as primary-contact and primary-care practitioners, independently or as members of a health-care team. This type of programme consists of a minimum of two years of full-time study (or its equivalent) of no fewer than 1500 hours, including no less than 400 hours of supervised clinical training. Acceptable applicants will typically have completed high school education or equivalent.

Type II training programmes are aimed at those with medical or other health-care training (western medicine, dentistry, chiropraxis, osteopathy, etc) who wish to become recognized naturopathic practitioners. The learning outcomes should be comparable to those of a Type I programme.

2.1 Learning outcomes of Type I programme

Graduates of the Type I programme have to be able to:

- provide a basic description of the principles and practice of the various disciplines of traditional, complementary and alternative medicine;
- assess the health of their clients of all ages with skill and accuracy and to communicate this information effectively to their clients;
- prescribe appropriate treatments involving naturopathic modalities used in accordance with naturopathic principles;
- recommend traditional medicines for the purpose of treating and preventing diseases and promoting health;
- prepare traditional medicines in accordance with pharmacopoeia requirements and good compounding and dispensing practices;
- monitor, evaluate and adapt, when necessary, the naturopathic care of each client;
- educate both clients and the public concerning the promotion of health and the prevention of diseases;

- refer clients to other health-care professionals when necessary and appropriate;
- practise ethically and in compliance with the codes and guidelines of the relevant professional organizations as well as the statutes, rules, laws and/or regulations of the licensing or regulatory body.

2.2 Syllabus

The Type I programme includes four primary areas of study:

- basic sciences
- clinical sciences
- naturopathic sciences, modalities and principles
- clinical training and application.

Since some courses and disciplines overlap more than one of these areas, this classification is merely intended to provide a simple categorization of the breadth of courses that are studied.

Basic sciences include: anatomy, physiology, pathology.

Clinical sciences include: taking a patient history and clinical assessment; physical examination; first-aid and emergency medicine; hygiene and public health.

Naturopathic sciences, modalities and principles include: naturopathic history and practice; nature cure; nutrition; hydrotherapy; botanical medicine; homeopathy and tissue salts; Bach flower therapy; stress management and lifestyle counselling; ethics and jurisprudence; optional courses (light and electrotherapy; iridology; soft tissue therapies; aromatherapy; acupuncture).

Clinical training may include preceptorship and supervised clinical training.

2.3 Competency in botanical medicine

Competency in botanical medicine requires training in core naturopathic subjects as well as specific botanical medicine subjects. All naturopathic practitioners receive training in the use and compounding of medicinal plants. They are knowledgeable in the identification, storage, compounding and dispensing of herbal remedies. These practitioners should be able to identify the herbal remedies that are most commonly used in their region and demonstrate knowledge of pharmacognosy and good compounding and dispensing practices. For each of these herbal medicines, they should be able to state the indications, dosages, contraindications, potential adverse effects, toxicity levels and potential interactions between herbal remedies, pharmaceutical products or foods. Practitioners should comply with requirements for adverse-reaction reporting.

By the end of the training programme, students should have the competency in the area of botanical medicines (6) and:

- have a basic knowledge of botany; have an understanding of the taxonomy and morphology of botanical medicines; be able to identify botanical medicines, both growing and dried, relevant to their level of practice;
- be able to classify plants according to their action – e.g. as astringents, demulcents, diaphoretics, etc. – and relate the action of an individual plant to the indications for its use;
- understand the pharmacological action of botanical medicines;
- know in detail the dosage range and toxicities of the botanical medicines studied in their training programme;
- know in detail the contraindications and incompatibilities of the botanical medicines studied in their training programme;
- be able to list potentially adverse botanical-botanical, botanical-nutraceutical, botanical-pharmaceutical and/or botanical-food interactions for the botanical medicines used in their practice;
- have awareness of the relative merits of simple and/or complex botanical medicine preparations;
- have an understanding of good compounding and dispensing practices appropriate to their level of practice;
- be able to report adverse reactions to the appropriate authorities.

Table 1 - Indicative Type I training programme

Course Name	Total Contact Hours	Lecture Hours	Tutorials/ Practicals/ Labs	Credit hours
Year 1				
Anatomy	48	36	12	4.0
Physiology	48	48		4.0
Pathology	24	24		2.0
Naturopathic History and Practice	24	24		2.0
Nature cure principles	24	24		2.0
Toxicity, Detoxification, Cleansing	24	24		2.0
Hydrotherapy	24	12	12	2.0
Hygiene and public health	12	12		1.0
Psychology and stress management	12	12		1.0
First Aid, emergency care	12	6	6	1.0
Year 2				
Anamnesis and clinical assessment	24	18	6	2.0
Fasting, diet, nutrition	24	18	6	2.0
Homeopathy & Tissue Salts	24	24		2.0
Herbology	24	24		2.0
Bach Flower Therapy	12	12		2.0
Light & Electrotherapy	12	6	6	2.0
Soft Tissue Manipulation	12	4	8	2.0
Preceptorship	36	12	36	3.0
Supervised clinical training	96		84	8.0

2.4 Type II programme

The Type I programme can be adapted to a Type II programme which is designed to enable other health-care professionals to obtain additional qualification as a naturopathic practitioner. Accordingly, the duration and syllabus of the Type II programme will depend on prior education and experience, and will vary from student to student. However, the duration should be no fewer than 1000 hours, including no fewer than 400 hours of supervised clinical training and the syllabus will be tailored to include any course content from the Type I programme that had not previously been studied by the student.

3. Safety issues

The community of naturopathy practitioners recognizes a number of contraindications associated with naturopathic modalities. These contraindications may be associated with the modalities themselves rather than the specifically naturopathic use of these treatments. As naturopathy includes interventions from acupuncture, nutrition, physical therapies, counselling, and other practices, it is not practical to provide a comprehensive list of contraindications in this document. Instead, it is recommended that reference be made to the guidelines of the relevant health-care practices regarding contraindications to interventions also included in naturopathy. These may include WHO and WHO Regional Office publications, such as the *WHO Guidelines on basic training and safety in acupuncture (17,18,19)*.

The foremost principle of naturopathy – *primum non nocere* – or “first do no harm”, demands that naturopathic practitioners place patient safety first. Properly trained naturopathic practitioners know the limitations of, and the contraindications to, the products and modalities they use. For example, a properly trained naturopathic practitioner will immediately refer a patient when circumstances indicate that a patient’s safety and well-being will be put at risk if that patient is not treated by a different health-care practitioner. Referral is also indicated when naturopathic treatment is not likely to assist the patient or is not producing the anticipated positive result.

Referral to other health professionals is specifically indicated when:

- a life-threatening situation occurs or is suspected;
- the diagnosis, assessment or treatment of a specific condition is not within the scope of naturopathy;
- the diagnosis, assessment or treatment of a specific condition requires expertise or technology that is not readily available to the naturopathic practitioner;
- a diagnosis cannot be confirmed with the training and technology that is available to the naturopathic practitioner;
- the response to treatment is not adequate, or inexplicably unsatisfactory, or the patient’s condition deteriorates;
- a second opinion is desired.

Such referrals may reduce the risk of indirect adverse effects, which can occur when an inappropriate treatment is administered; when proper treatment is delayed or interrupted; when a misdiagnosis is made; or when naturopathic therapies are used when not indicated.

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Annex 1: Glossary

Naturopathic detoxification

A collection of methods such as fasting, exercise, hydrotherapy and traditional medicines to remove endogenous compounds or endogenous waste products from the tissues and bloodstream.

Iridology

A method of diagnosis that determines conditions in the various organs and parts of the body by examining the iris of the eye.

Nature cure

A system for treating disease with natural agents such as water, air, diet, herbs and sunshine, developed in nineteenth century in Europe.

Naturopathic osseous manipulation

Treatments that involve manual or mechanical manipulation of the joints to restore normal alignment and function.

Naturopathy

A profession of health care, emphasizing prevention, treatment and the promotion of optimal health through the use of therapeutic methods and modalities that encourage the self-healing process - the *vis medicatrix naturae* (20).

Vital force

The essential energy that animates the body, referred to in Chinese medicine as *chi* and in Ayurvedic medicine as *prana*.

Annex 2: WHO Consultation on Phytotherapy, Milan, Italy, 20–23 November 2006: list of participants

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Lei n.º 45/2003

de 22 de Agosto

Lei do enquadramento base das terapêuticas não convencionais

A Assembleia da República decreta, nos termos da alínea c) do artigo 161.º da Constituição, para valer como lei geral da República, o seguinte:

CAPÍTULO I**Objecto e princípios****Artigo 1.º****Objecto**

A presente lei estabelece o enquadramento da actividade e do exercício dos profissionais que aplicam as terapêuticas não convencionais, tal como são definidas pela Organização Mundial de Saúde.

Artigo 2.º**Âmbito de aplicação**

A presente lei aplica-se a todos os profissionais que se dediquem ao exercício das terapêuticas não convencionais nela reconhecidas.

Artigo 3.º**Conceitos**

1 — Consideram-se terapêuticas não convencionais aquelas que partem de uma base filosófica diferente da medicina convencional e aplicam processos específicos de diagnóstico e terapêuticas próprias.

2 — Para efeitos de aplicação da presente lei são reconhecidas como terapêuticas não convencionais as praticadas pela acupunctura, homeopatia, osteopatia, naturopatia, fitoterapia e quiropráxia.

Artigo 4.º**Princípios**

São princípios orientadores das terapêuticas não convencionais:

1 — O direito individual de opção pelo método terapêutico, baseado numa escolha informada, sobre a inocuidade, qualidade, eficácia e eventuais riscos.

2 — A defesa da saúde pública, no respeito do direito individual de protecção da saúde.

3 — A defesa dos utilizadores, que exige que as terapêuticas não convencionais sejam exercidas com um elevado grau de responsabilidade, diligência e competência, assentando na qualificação profissional de quem as exerce e na respectiva certificação.

4 — A defesa do bem-estar do utilizador, que inclui a complementaridade com outras profissões de saúde.

5 — A promoção da investigação científica nas diferentes áreas das terapêuticas não convencionais, visando alcançar elevados padrões de qualidade, eficácia e efectividade.

CAPÍTULO II**Qualificação e estatuto profissional****Artigo 5.º****Autonomia técnica e deontológica**

É reconhecida autonomia técnica e deontológica no exercício profissional da prática das terapêuticas não convencionais.

Artigo 6.º**Tutela e credenciação profissional**

A prática de terapêuticas não convencionais será credenciada e tutelada pelo Ministério da Saúde.

Artigo 7.º**Formação e certificação de habilitações**

A definição das condições de formação e de certificação de habilitações para o exercício de terapêuticas não convencionais cabe aos Ministérios da Educação e da Ciência e do Ensino Superior.

Artigo 8.º**Comissão técnica**

1 — É criada no âmbito dos Ministérios da Saúde e da Educação e da Ciência e do Ensino Superior uma comissão técnica consultiva, adiante designada por comissão, com o objectivo de estudar e propor os parâmetros gerais de regulamentação do exercício das terapêuticas não convencionais.

2 — A comissão poderá reunir em secções especializadas criadas para cada uma das terapêuticas não convencionais com vista à definição dos parâmetros específicos de credenciação, formação e certificação dos respectivos profissionais e avaliação de equivalências.

3 — A comissão cessará as suas funções logo que implementado o processo de credenciação, formação e certificação dos profissionais das terapêuticas não convencionais, que deverá estar concluído até ao final do ano de 2005.

Artigo 9.º**Funcionamento e composição**

1 — Compete ao Governo regulamentar as competências, o funcionamento e a composição da comissão e respectivas secções especializadas, que deverão integrar, designadamente, representantes dos Ministérios da Saúde, da Educação e da Ciência e do Ensino Superior e de cada uma das terapêuticas não convencionais e, caso necessário, peritos de reconhecido mérito na área da saúde.

2 — Cada secção especializada deverá integrar representantes dos Ministérios da Saúde, da Educação e da Ciência e do Ensino Superior, da área das terapêuticas não convencionais a regulamentar e, caso necessário, peritos de reconhecido mérito nessas áreas.

Artigo 10.º**Do exercício da actividade**

1 — A prática de terapêuticas não convencionais só pode ser exercida, nos termos desta lei, pelos profis-

sionais detentores das habilitações legalmente exigidas e devidamente credenciados para o seu exercício.

2 — Os profissionais que exercem as terapêuticas não convencionais estão obrigados a manter um registo individualizado de cada utilizador.

3 — O registo previsto no número anterior deve ser organizado e mantido de forma a respeitar, nos termos da lei, as normas relativas à protecção dos dados pessoais.

4 — Os profissionais das terapêuticas não convencionais devem obedecer ao princípio da responsabilidade no âmbito da sua competência e, considerando a sua autonomia na avaliação e decisão da instituição da respectiva terapêutica, ficam obrigados a prestar informação, sempre que as circunstâncias o justifiquem, acerca do prognóstico e duração do tratamento.

Artigo 11.º

Locais de prestação de cuidados de saúde

1 — As instalações e outros locais onde sejam prestados cuidados na área das terapêuticas não convencionais só podem funcionar sob a responsabilidade de profissionais devidamente certificados.

2 — Nestes locais será afixada a informação onde conste a identificação dos profissionais que neles exerçam actividade e os preços praticados.

3 — As condições de funcionamento e licenciamento dos locais onde se exercem as terapêuticas não convencionais regem-se de acordo com o estabelecido pelo Decreto-Lei n.º 13/93, de 15 de Janeiro, que regula a criação e fiscalização das unidades privadas de saúde, com as devidas adaptações.

Artigo 12.º

Seguro obrigatório

Os profissionais das terapêuticas não convencionais abrangidos pela presente lei estão obrigados a dispor de um seguro de responsabilidade civil no âmbito da sua actividade profissional, nos termos a regulamentar.

CAPÍTULO III

Dos utentes

Artigo 13.º

Direito de opção e de informação e consentimento

1 — Os cidadãos têm direito a escolher livremente as terapêuticas que entenderem.

2 — Os profissionais das terapêuticas não convencionais só podem praticar actos com o consentimento informado do utilizador.

Artigo 14.º

Confidencialidade

O processo de cada utente, em posse dos profissionais que exercem terapêuticas não convencionais, é confidencial e só pode ser consultado ou cedido mediante autorização expressa do próprio utilizador ou determinação judicial.

Artigo 15.º

Direito de queixa

Os utilizadores das práticas de terapêuticas não convencionais, para salvaguarda dos seus interesses, podem

participar as ofensas resultantes do exercício de terapêuticas não convencionais aos organismos com competências de fiscalização.

Artigo 16.º

Publicidade

Sem prejuízo das normas previstas em legislação especial, a publicidade de terapêuticas não convencionais rege-se pelo disposto no Decreto-Lei n.º 330/90, de 23 de Outubro, na sua actual redacção.

CAPÍTULO IV

Fiscalização e infracções

Artigo 17.º

Fiscalização e sanções

A fiscalização do disposto na presente lei e a definição do respectivo quadro sancionatório serão objecto de regulamentação por parte do Governo.

Artigo 18.º

Infracções

Aos profissionais abrangidos por esta lei que lesem a saúde dos utilizadores ou realizem intervenções sem o respectivo consentimento informado é aplicável o disposto nos artigos 150.º, 156.º e 157.º do Código Penal, em igualdade de circunstâncias com os demais profissionais de saúde.

CAPÍTULO V

Disposições finais

Artigo 19.º

Regulamentação

A presente lei será regulamentada no prazo de 180 dias após a sua entrada em vigor.

Artigo 20.º

Entrada em vigor

A presente lei entra em vigor no dia seguinte ao da sua publicação.

Aprovada em 15 de Julho de 2003.

O Presidente da Assembleia da República, *João Bosco Mota Amaral*.

Promulgada em 4 de Agosto de 2003.

Publique-se.

O Presidente da República, JORGE SAMPAIO.

Referendada em 8 de Agosto de 2003.

O Primeiro-Ministro, *José Manuel Durão Barroso*.

CAPÍTULO II

Assunção de compromissos e pagamentos em atraso**Artigo 68.º****Assunção de compromissos e pagamentos em atraso**

1 — As entidades previstas no n.º 2 do artigo 2.º dão cumprimento ao disposto na Lei n.º 8/2012, de 21 de fevereiro, que aprova as regras aplicáveis à assunção de compromissos e aos pagamentos em atraso das entidades públicas, alterada pelas Leis n.ºs 20/2012, de 14 de maio, 64/2012, de 20 de dezembro, e 66-B/2012, de 31 de dezembro.

2 — As regiões autónomas podem aprovar mediante decreto legislativo regional normas de regulamentação da Lei n.º 8/2012, de 21 de fevereiro, alterada pelas Leis n.ºs 20/2012, de 14 de maio, 64/2012, de 20 de dezembro, e 66-B/2012, de 31 de dezembro.

3 — Na ausência da regulamentação a que se refere o número anterior, estão as regiões autónomas obrigadas a dar cumprimento ao Decreto-Lei n.º 127/2012, de 21 de junho, que contempla as normas legais disciplinadoras dos procedimentos necessários à aplicação da lei dos compromissos e dos pagamentos em atraso, aprovada pela Lei n.º 8/2012, de 21 de fevereiro, e à operacionalização da prestação de informação nela prevista, alterado pelas Leis n.ºs 64/2012, de 20 de dezembro, e 66-B/2012, de 31 de dezembro.

TÍTULO VIII

Disposições finais e transitórias**Artigo 69.º****Lei-quadro**

A presente lei constitui, em matéria fiscal, a lei-quadro a que se referem a Constituição e os Estatutos Político-Administrativos das Regiões Autónomas dos Açores e da Madeira.

Artigo 70.º**Cláusulas de salvaguarda**

O disposto na presente lei:

a) Não dispensa o cumprimento de obrigações anteriormente assumidas pelo Estado em relação às regiões autónomas e por estas em relação ao Estado;

b) Não prejudica as obrigações assumidas ou a assumir no âmbito de tratados e acordos internacionais celebrados pelo Estado Português;

c) Não prejudica as prerrogativas constitucionais e estatutárias das regiões autónomas, designadamente as referentes aos direitos de participação nas negociações de tratados ou acordos internacionais.

Artigo 71.º**Norma transitória**

1 — Os créditos tributários ainda pendentes por referência a impostos abolidos pela presente lei podem ser considerados para efeitos de cálculo das transferências para as regiões autónomas, saldando os seus montantes com as transferências dos impostos que os sucederam.

2 — A execução do disposto no n.º 2 do artigo 65.º faz-se por protocolo a celebrar entre a Autoridade Tributária e Aduaneira e as autoridades fiscais regionais, nos 180 dias após a entrada em vigor da presente lei.

3 — Mantém-se em vigor o artigo 5.º da Lei Orgânica n.º 2/2010, de 16 de junho, que dispõe sobre as verbas previstas no Fundo de Coesão, destinadas à Região Autónoma da Madeira.

4 — As verbas previstas no artigo 6.º da Lei Orgânica n.º 2/2010, de 16 de junho, referentes ao financiamento através do Banco Europeu de Investimento, são disponibilizadas pelo Estado à Região Autónoma da Madeira, em conformidade com a programação do financiamento dos projetos a que se destinam e pelos prazos previstos no respetivo financiamento, sendo os juros suportados pelo Estado.

5 — O diploma a que se refere o n.º 2 do artigo 36.º é publicado no prazo de 90 dias a contar do 1.º dia útil seguinte ao da publicação da presente lei.

Artigo 72.º**Adoção do Plano Oficial de Contabilidade Pública**

As regiões autónomas devem adotar, após a data de entrada em vigor da presente lei, o Plano Oficial de Contabilidade Pública ou planos de contabilidade que os substituam.

Artigo 73.º**Norma revogatória**

São revogados:

a) A Lei Orgânica n.º 1/2007, de 19 de fevereiro, alterada pelas Leis Orgânicas n.ºs 1/2010, de 29 de março, e 2/2010, de 16 de junho, e pela Lei n.º 64/2012, de 20 de dezembro;

b) O artigo 20.º da Lei Orgânica n.º 2/2010, de 16 de junho.

Artigo 74.º**Entrada em vigor**

A presente lei orgânica entra em vigor em 1 de janeiro de 2014.

Aprovada em 24 de julho de 2013.

A Presidente da Assembleia da República, *Maria da Assunção A. Esteves*.

Promulgada em 22 de agosto de 2013.

Publique-se.

O Presidente da República, ANÍBAL CAVACO SILVA.

Referendada em 26 de agosto de 2013.

O Primeiro-Ministro, *Pedro Passos Coelho*.

Lei n.º 71/2013

de 2 de setembro

Regulamenta a Lei n.º 45/2003, de 22 de agosto, relativamente ao exercício profissional das atividades de aplicação de terapêuticas não convencionais

A Assembleia da República decreta, nos termos da alínea c) do artigo 161.º da Constituição, o seguinte:

Artigo 1.º**Objeto**

A presente lei regula o acesso às profissões no âmbito das terapêuticas não convencionais, e o seu exercício,

no setor público ou privado, com ou sem fins lucrativos.

Artigo 2.º

Âmbito de aplicação

A presente lei aplica-se a todos os profissionais que se dediquem ao exercício das seguintes terapêuticas não convencionais:

- a) Acupuntura;
- b) Fitoterapia;
- c) Homeopatia;
- d) Medicina tradicional chinesa;
- e) Naturopatia;
- f) Osteopatia;
- g) Quiropráxia.

Artigo 3.º

Autonomia técnica e deontológica

É reconhecida autonomia técnica e deontológica no exercício profissional da prática das terapêuticas não convencionais.

Artigo 4.º

Caraterização e conteúdo funcional

As profissões referidas no artigo 2.º compreendem a realização das atividades constantes de portaria dos membros do Governo responsáveis pelas áreas da saúde e do ensino superior.

Artigo 5.º

Acesso à profissão

1 — O acesso às profissões das terapêuticas não convencionais depende da titularidade do grau de licenciado numa das áreas referidas no artigo 2.º, obtido na sequência de um ciclo de estudos compatível com os requisitos fixados, para cada uma, por portaria dos membros do Governo responsáveis pelas áreas da saúde e do ensino superior.

2 — Na fixação dos requisitos a que se refere o número anterior são considerados os termos de referência da Organização Mundial de Saúde para cada profissão, após a audição da Agência de Avaliação e Acreditação do Ensino Superior e da Direção-Geral da Saúde, adiante designada por DGS.

Artigo 6.º

Cédula profissional

1 — O exercício das profissões referidas no artigo 2.º só é permitido aos detentores de cédula profissional emitida pela Administração Central do Sistema de Saúde, I. P., adiante designada por ACSS.

2 — A emissão da cédula profissional está condicionada à titularidade de diploma adequado, nos termos do artigo 5.º

3 — As regras a aplicar ao requerimento e emissão da cédula profissional são aprovadas por portaria do membro do Governo responsável pela área da saúde.

4 — Pela emissão da cédula profissional é devido o pagamento de uma taxa de montante a fixar por portaria dos membros do Governo responsáveis pelas áreas das finanças e da saúde.

Artigo 7.º

Reserva do título profissional

O uso dos títulos profissionais correspondentes às profissões a que se refere o artigo 2.º só é facultado aos detentores da correspondente cédula profissional.

Artigo 8.º

Registo profissional

1 — A ACSS organiza e mantém atualizado um registo dos profissionais abrangidos pela presente lei.

2 — O registo é público e divulgado através do sítio da Internet da ACSS.

Artigo 9.º

Informação

1 — Os profissionais das terapêuticas não convencionais devem manter um registo claro e detalhado das observações dos utilizadores, bem como dos atos praticados, de modo a que o mesmo possa servir de memória futura.

2 — Os profissionais das terapêuticas não convencionais devem prestar aos utilizadores informação correta e inteligível acerca do prognóstico, tratamento e duração do mesmo, devendo o consentimento do utilizador ser expressado através de meio adequado em função das boas práticas vigentes na profissão.

3 — Por forma a salvaguardar eventuais interações medicamentosas, o utilizador deve informar por escrito o profissional das terapêuticas não convencionais de todos os medicamentos, convencionais ou naturais, que esteja a tomar.

4 — Os profissionais das terapêuticas não convencionais não podem alegar falsamente que os atos que praticam são capazes de curar doenças, disfunções e malformações.

Artigo 10.º

Seguro profissional

1 — Os profissionais das terapêuticas não convencionais estão obrigados a dispor de um seguro de responsabilidade civil no âmbito da sua atividade profissional, nos termos a regulamentar em diploma específico.

2 — A regulamentação prevista no número anterior deve prever, nomeadamente, o capital mínimo a segurar, o âmbito territorial e temporal da garantia, as exclusões aplicáveis, a possibilidade de estabelecimento de franquias e as condições de exercício do direito de regresso.

Artigo 11.º

Locais de prestação de terapêuticas não convencionais

1 — Nos termos do n.º 3 do artigo 11.º da Lei n.º 45/2003, de 22 de agosto, aos locais de prestação de terapêuticas não convencionais aplica-se, com as devidas adaptações, o disposto no Decreto-Lei n.º 279/2009, de 6 de outubro, que estabelece o regime jurídico a que estão sujeitos a abertura, a modificação e o funcionamento das unidades privadas de serviços de saúde.

2 — Para efeitos do disposto no número anterior, os locais de prestação de terapêuticas não convencionais estão sujeitos ao procedimento de licenciamento simplificado, devendo os respetivos requisitos de funcionamento ser

definidos por portaria do membro do Governo responsável pela área da saúde.

3 — A direção clínica dos locais de prestação de terapêuticas não convencionais é assegurada por um profissional deste setor, devidamente credenciado.

4 — Nos locais de prestação de terapêuticas não convencionais é proibida a comercialização de produtos aos utilizadores.

Artigo 12.º

Fiscalização e controlo

1 — Compete à Inspeção-Geral das Atividades em Saúde, sem prejuízo das competências atribuídas por lei a outras entidades, designadamente à Autoridade de Segurança Alimentar e Económica (ASAE), a fiscalização do cumprimento das disposições legais constantes da presente lei e respetiva regulamentação.

2 — No âmbito das respetivas atribuições, compete ainda às entidades a seguir elencadas fiscalizar o cumprimento do disposto na presente lei:

a) Às administrações regionais de saúde, no que se refere ao licenciamento das unidades privadas prestadoras de cuidados de saúde;

b) Às autoridades de saúde, no que se refere à defesa da saúde pública;

c) À ACSS, no que se refere ao exercício das profissões;

d) Ao INFARMED, I. P., no exercício de funções de regulação e supervisão dos setores dos medicamentos de uso humano e de produtos de saúde, nomeadamente no que se refere aos medicamentos homeopáticos e medicamentos tradicionais à base de plantas, bem como no que respeita aos dispositivos médicos utilizados;

e) À Entidade Reguladora da Saúde, no exercício da sua atividade reguladora, nomeadamente em matéria de cumprimento dos requisitos de atividade dos estabelecimentos e de monitorização das queixas e reclamações dos utentes;

f) À Inspeção-Geral das Atividades em Saúde, relativamente à verificação do cumprimento das disposições legais e regulamentares e das orientações aplicáveis, bem como da qualidade dos serviços prestados, através da realização de ações de auditoria, inspeção e fiscalização.

3 — Os utilizadores das terapêuticas não convencionais podem sempre, para salvaguarda dos seus interesses, participar as ofensas resultantes do exercício de terapêuticas não convencionais aos organismos com competências de fiscalização.

Artigo 13.º

Regime sancionatório

1 — É punível com coima de 10 a 37 unidades de conta processuais, no caso de pessoas singulares, e de 49 a 440 unidades de conta processuais, no caso de pessoas coletivas, a violação do disposto nos artigos 6.º, 7.º, 9.º, 10.º e nos n.ºs 3 e 4 do artigo 11.º

2 — A tentativa e a negligência são puníveis, sendo as coimas previstas nos números anteriores reduzidas a metade.

Artigo 14.º

Sanções acessórias

1 — Conjuntamente com as coimas previstas no artigo anterior, podem ser aplicadas, em função da gravidade

da contraordenação e da culpa do agente, as seguintes sanções acessórias:

a) A suspensão da cédula profissional por um período de três meses a dois anos;

b) O cancelamento da cédula profissional;

c) A perda de objetos pertencentes ao profissional e que tenham sido utilizados na prática das infrações.

2 — A aplicação das sanções acessórias constantes das alíneas a) e b) do número anterior é comunicada à ACSS, para os devidos efeitos, e publicitada no registo a que se refere o n.º 2 do artigo 8.º

Artigo 15.º

Instrução de processos e aplicação de sanções

1 — Compete à Inspeção-Geral das Atividades em Saúde a instrução e decisão dos processos de contraordenação instaurados no âmbito da presente lei, devendo ser-lhe remetidos quaisquer autos de notícia quando levantados por outras entidades.

2 — No decurso da averiguação ou da instrução, a Inspeção-Geral das Atividades em Saúde pode solicitar às entidades policiais e a quaisquer outros serviços públicos ou autoridades toda a colaboração ou auxílio que julgue necessários para a realização das finalidades do processo.

Artigo 16.º

Produto das coimas

O produto das coimas reverte em:

a) 60 % para o Estado;

b) 30 % para a Inspeção-Geral das Atividades em Saúde;

c) 10 % para a entidade que levantou o auto.

Artigo 17.º

Conselho Consultivo para as Terapêuticas não Convencionais

Como órgão não remunerado de apoio ao Ministro da Saúde para as questões relativas ao exercício, formação, regulamentação e regulação das profissões previstas na presente lei, é criado o Conselho Consultivo para as Terapêuticas não Convencionais, cujas competências e regras de funcionamento constam de portaria a aprovar pelo membro do Governo responsável pela área da saúde.

Artigo 18.º

Composição

1 — O Conselho Consultivo para as Terapêuticas não Convencionais tem a seguinte composição:

a) Um representante da ACSS;

b) Dois representantes da DGS;

c) Um representante do ministério da tutela do ensino superior;

d) Um representante do ministério da tutela do trabalho;

e) Dois representantes de cada profissão, indigitados pelas associações profissionais mais representativas da profissão;

f) Um representante da Ordem dos Médicos;

g) Um representante da Ordem dos Farmacêuticos;

h) Dois docentes indigitados por instituições de ensino oficialmente reconhecidas que ministrem os ciclos de estudos previstos no artigo 5.º;

i) Dois representantes de entidades de defesa dos direitos do consumidor.

2 — Os representantes previstos nas alíneas c) e d) do número anterior são designados pelos competentes ministros da tutela por um período de três anos, sendo os restantes representantes designados pelo membro do Governo responsável pela área da saúde por igual período.

3 — O membro do Governo responsável pela área da saúde nomeia o presidente do Conselho Consultivo para as Terapêuticas não Convencionais de entre os representantes referidos no n.º 1.

Artigo 19.º

Disposição transitória

1 — Quem, à data da entrada em vigor da presente lei, se encontrar a exercer atividade em alguma das terapêuticas não convencionais a que se refere o artigo 2.º, deve apresentar, na ACSS, no prazo de 180 dias a contar da data de entrada em vigor da regulamentação a que se referem os artigos 5.º e 6.º e o n.º 2 do presente artigo:

a) Documento emitido pela respetiva entidade patronal, do qual resulte a comprovação do exercício da atividade, ou declaração de exercício de atividade emitida pela Autoridade Tributária e Aduaneira, na qual conste a data de início da atividade;

b) Documento comprovativo de inscrição num regime de segurança social;

c) Descrição do respetivo percurso formativo e profissional, em formato de *curriculum vitae* europeu, acompanhada dos documentos comprovativos, nomeadamente:

i) Relativamente à terapêutica a praticar, identificação da instituição que ministrou a formação, respetiva duração e a data em que a mesma foi concluída com êxito, bem como eventual estágio praticado, seu local de exercício, duração e identificação do responsável pelo estágio;

ii) Formações ou estágios complementares, com identificação das respetivas instituições, durações e datas;

iii) Funções exercidas no âmbito da terapêutica a praticar.

2 — AACSS procede à apreciação curricular documentada referida no número anterior, nos termos que sejam fixados por portaria do membro do Governo responsável pela área da saúde, e profere uma das seguintes decisões:

a) Atribuição de uma cédula profissional;

b) Atribuição de uma cédula profissional provisória, válida por um período determinado não superior a duas vezes o período para formação complementar cuja conclusão com aproveitamento seja considerada necessária para a atribuição da cédula profissional, nos termos do artigo 6.º;

c) Não atribuição da cédula profissional.

3 — Sempre que, por motivo fundamentado, a ACSS julgar insuficientes os documentos probatórios referidos no presente artigo, pode solicitar o fornecimento pelos interessados de quaisquer outros meios de prova da situação profissional invocada e ou a intervenção dos serviços competentes do ministério com a tutela do emprego.

4 — Nas situações previstas no número anterior, os interessados devem fornecer os elementos exigidos num prazo de 60 dias.

5 — Pela atribuição da cédula profissional provisória é devido o pagamento de uma taxa de montante a fixar por portaria dos membros do Governo responsáveis pelas áreas das finanças e da saúde.

6 — Para efeitos do disposto no n.º 1 do artigo 5.º, as instituições de formação/ensino não superior que, à data da entrada em vigor da presente lei, se encontrem legalmente constituídas e a promover formação/ensino na área das terapêuticas não convencionais legalmente reconhecidas, dispõem de um período não superior a cinco anos para efeitos de adaptação ao regime jurídico das instituições de ensino superior, nos termos a regulamentar pelo Governo em legislação especial.

7 — O disposto no presente artigo não prejudica a aplicação do regime legal de reconhecimento de graus académicos estrangeiros e das regras de mobilidade previstas no regime jurídico dos graus e diplomas do ensino superior.

8 — Para a prossecução dos objetivos previstos no presente artigo, a ACSS pode recorrer ao apoio e colaboração de outras entidades, nomeadamente as previstas no artigo 12.º, ao Instituto de Emprego e Formação Profissional, I. P., a peritos no exercício da terapêutica não convencional em apreço ou a instituições internacionais que tenham acompanhado processos semelhantes.

9 — O disposto no n.º 4 do artigo 11.º entra em vigor dois anos após a publicação da presente lei.

Artigo 20.º

Direito subsidiário

É subsidiariamente aplicável o regime geral dos ilícitos de mera ordenação social.

Artigo 21.º

Regulamentação

A regulamentação prevista nos artigos 4.º, 5.º, 6.º, 10.º, 11.º, 17.º e 19.º é aprovada no prazo de 180 dias após a publicação da presente lei.

Artigo 22.º

Entrada em vigor

A presente lei entra em vigor 30 dias após a sua publicação.

Aprovada em 24 de julho de 2013.

A Presidente da Assembleia da República, *Maria da Assunção A. Esteves*.

Promulgada em 22 de agosto de 2013.

Publique-se.

O Presidente da República, ANÍBAL CAVACO SILVA.

Referendada em 26 de agosto de 2013.

O Primeiro-Ministro, *Pedro Passos Coelho*.

MINISTÉRIO DOS NEGÓCIOS ESTRANGEIROS

Aviso n.º 90/2013

Por ordem superior se torna público o depósito, junto da Organização das Nações Unidas para a Educação, Ciência

ANEXO

Quadro de pessoal da Assembleia da República

Carreiras/cargos	Lugares
Secretário-Geral	1
Director de serviços	5
Chefe de divisão	8
Técnica superior parlamentar	155
Área de arquitectura	2
Área de arquivo	5
Área de assuntos culturais	4
Área de áudio-visual	3
Área de biblioteca e documentação	21
Área de conservador de museu	2
Área de economia	9
Área de engenharia	3
Área de gestão e administração pública	8
Área de informática	16
Área jurídica	37
Área de redacção	31
Área de relações internacionais	7
Área de relações públicas	3
Área de tradução	4
Técnica parlamentar	23
Programador parlamentar	2
Operador parlamentar de sistemas-chefe	2
Operador parlamentar de sistemas	6
Adjunto parlamentar	94
Tesoureiro	1
Secretário parlamentar	70
Encarregado do pessoal auxiliar	1
Encarregado do parque automóvel	1
Encarregado do parque reprográfico	1
Zelador	1
Fiel de armazém	2
Auxiliar de biblioteca	7
Motorista	14
Auxiliar parlamentar	75
Guarda-nocturno	7
Guarda de museu	3
Operador de reprografia	7
Operador de <i>offset</i>	2
Carpinteiro	1
Jardineiro	2

Resolução da Assembleia da República n.º 60/2003**Eleição de dois membros para o Conselho de Gestão do Centro de Estudos Judiciários**

A Assembleia da República resolve, nos termos do n.º 5 do artigo 166.º da Constituição e da alínea e) do n.º 1 do artigo 9.º da Lei n.º 16/98, de 8 de Abril, designar para o Conselho de Gestão do Centro de Estudos Judiciários as seguintes personalidades:

Jorge Cláudio de Bacelar Gouveia.
Jorge Lácio Costa.

Aprovada em 3 de Julho de 2003.

O Presidente da Assembleia da República, *João Bosco Mota Amaral*.

Resolução da Assembleia da República n.º 61/2003**Eleição de seis membros para o Conselho Nacional de Ética para as Ciências da Vida**

A Assembleia da República resolve, nos termos da alínea c) do n.º 1 e do n.º 4 do artigo 3.º da Lei n.º 14/90, de 9 de Junho, e dos artigos 279.º e seguintes do Regimento, designar como membros para o Conselho Nacional de Ética para as Ciências da Vida as seguintes personalidades:

Salvador Manuel Correia Massano Cardoso.
Agostinho Almeida Santos.

António Vaz Carneiro.
António Alberto Falcão de Freitas.
Rui Manuel Lopes Nunes.
Miguel Oliveira da Silva.

Aprovada em 3 de Julho de 2003.

O Presidente da Assembleia da República, *João Bosco Mota Amaral*.

Resolução da Assembleia da República n.º 62/2003**Eleição de um vogal para a Comissão Nacional de Protecção de Dados**

A Assembleia da República resolve, nos termos do n.º 5 do artigo 166.º da Constituição e do n.º 1 do artigo 25.º da Lei n.º 67/98, de 26 de Outubro, eleger para a Comissão Nacional de Protecção de Dados (CNPd) o Dr. Eduardo Manuel Castro Guimarães de Carvalho Campos.

Aprovada em 3 de Julho de 2003.

O Presidente da Assembleia da República, *João Bosco Mota Amaral*.

Resolução da Assembleia da República n.º 63/2003**Eleição de dois representantes para a Comissão de Fiscalização dos Centros Educativos**

A Assembleia da República resolve, nos termos do n.º 1 do artigo 209.º da Lei n.º 166/99, de 14 de Setembro, e dos artigos 279.º e seguintes do Regimento, designar para a Comissão de Fiscalização dos Centros Educativos os seguintes deputados:

Maria Teresa da Silva Morais.
Eduardo Arménio do Nascimento Cabrita.

Aprovada em 3 de Julho de 2003.

O Presidente da Assembleia da República, *João Bosco Mota Amaral*.

Resolução da Assembleia da República n.º 64/2003**Regulamentação da osteopatia**

A Assembleia da República resolve, nos termos do n.º 5 do artigo 166.º da Constituição, recomendar ao Governo que:

- Diligencie no sentido de elaborar um estudo que indique o tipo de organismo e o método que regule a organização, a ética e o ensino da osteopatia;
- Crie uma comissão que certifique os cursos nacionais e acredite os estrangeiros que se afigurem de acordo com os princípios definidos no estudo acima indicado.

Aprovada em 15 de Julho de 2003.

O Presidente da Assembleia da República, *João Bosco Mota Amaral*.

WHO guidelines on basic training and safety in chiropractic



**World Health
Organization**

**WHO guidelines on
basic training and safety
in chiropractic**



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Contents

Acknowledgements	i
Foreword.....	ii
Introduction	1
Objectives	2
How to use this document	2
Glossary	3
Part 1: Basic training in chiropractic	5
1. General considerations	5
1.1. Historical information	5
1.2 Philosophy and basic theories of chiropractic	5
1.3 Administrative and academic considerations	6
1.4 Monitoring and evaluation	6
1.5 Further education and career possibilities	7
2. Acceptable levels of education and retraining.....	7
2.1 Category I - full chiropractic education.....	7
2.2 Category II - limited chiropractic education.....	7
3. Models of chiropractic education	8
3.1 Category I(A)	8
3.2 Category I(B).....	8
3.3 Category II(A).....	8
3.4 Category II(B).....	9
4. Full chiropractic education – category I(A).....	9
4.1 Objective.....	9
4.2 Entrance requirements.....	9
4.3 Basic training.....	9
4.4 Core syllabus.....	10
5. Full chiropractic education – category I(B)	13
5.1 Objective.....	13
5.2 Special courses	13
5.3 Basic training.....	13
6. Limited chiropractic education – category II(A)	14
6.1 Objective.....	14
6.2 Special courses	14
6.3 Basic training.....	14
7. Limited chiropractic education – category II(B).....	15
7.1 Objective.....	15
7.2 Special courses	15
7.3 Basic training.....	15
8. Assessment and examination of students in chiropractic.....	16

9. Primary health care workers and chiropractic.....	16
9.1 Primary health care workers - myotherapists	16
9.2 Objective.....	16
9.3 Course components.....	17
9.4 Method and duration of training	17
Part 2: Guidelines on safety of chiropractic	19
1. Introduction.....	19
2. Contraindications to spinal manipulative therapy	20
2.1 Absolute contraindications to spinal manipulative therapy	21
3. Contraindications to joint manipulation by category of disorder.....	22
3.1 Articular derangement	22
3.2 Bone-weakening and destructive disorders.....	23
3.3 Circulatory and haematological disorders.....	23
3.4 Neurological disorders	23
3.5 Psychological factors.....	24
4. Contraindications to adjunctive and supportive therapies	24
4.1 Electrotherapies	24
4.2 Exercises and supplementary supportive measures.....	24
5. Accidents and adverse reactions.....	25
5.1 Causes of complications and adverse reactions	25
5.2 Examples of inappropriate practices	25
5.3 Serious adverse consequences	25
5.4 Vascular accidents.....	26
5.5 Prevention of complications from manipulation	27
6. First aid training.....	27
Annex 1: List of participants	29
Annex 2: A sample four-year, full-time accredited programme.....	33
Annex 3: A sample full (conversion) programme.....	35
Annex 4: A sample limited (conversion) programme	37
Annex 5: A sample limited (standardization) programme.....	39
References	41

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Special thanks are due to participants of the WHO Consultation on Chiropractic (see Annex 1), who worked towards reviewing and finalizing the draft guidelines, and to the WHO Collaborating Centre for Traditional Medicine at the State University of Milan, Italy, in particular to Professor Umberto Solimene, the Director, and to Miss Elisabetta Minelli, the International Liaison Officer, for their assistance to WHO in organizing the Consultation.

Foreword

During the last decade, the use of traditional and complementary/alternative medicine (TM/CAM) has increased considerably not only in developing countries, where it often represents the only possibility for health protection, but also in developed countries. The percentage of the population that uses TM/CAM is in the order of 50% in many of high income countries, such as Canada, France, Germany, United Kingdom and United States of America. This occurs also in Italy (not less than 15%) as well as for certain Italian regions, including the Lombardy Region, where the percentage is around 20% and continues rising.

Facing this challenge, it is extremely important to create the conditions for the correct and appropriate use of methods which, if used correctly, can contribute to the protection and enhancement of citizens' health and well being. The development of these practices can only be obtained according to safety, efficacy and quality criteria. Such principles characterize the modern medical practice and are the essential basis for consumers' protection.

TM/CAM activities undertaken by the Regional Government of Lombardy have always been guided by the abovementioned criteria. TM/CAM was included in the Regional Community Healthcare Plan (2002-2004), and a comprehensive framework for the protection of consumers and practitioners has been developed accordingly - thanks to a series of administrative provisions. The four-year cooperation plan between the World Health Organization and the Regional Government of Lombardy on the use and evaluation of TM/CAM is a keystone in such a process. The promotion of several clinical and observational studies on the regional territory is also to be considered an important step for the evaluation of the efficacy of TM/CAM methods.

The quality of the practice depends mainly on the training performed by the practitioner. For this reason, the Regional Government of Lombardy supported the development of the *WHO Guidelines on Basic Training and Safety in Chiropractic* that aim at defining the requisites for chiropractic practitioners. The process of development of these Guidelines included the WHO Consultation meeting held in Milan in December 2004, which brought together experts, national authorities and professional organizations from all over the world. One of the conclusions of the Consultation was that these guidelines were appropriate as resources not only for the Lombardy Region, but also for various country situations worldwide. With this in mind, this document is to be considered an important reference point for those, among practitioners, political and administrative authorities, that want chiropractic to be a safe and efficacious aid for citizens' health and for any regulatory and licensing act.

Alessandro Cè
Regional Minister of Health
Regional Government of Lombardy

Giancarlo Abelli
Regional Minister of Family and Social Solidarity
Regional Government of Lombardy

Introduction

Chiropractic is one of the most popularly used forms of manual therapy. It is now practised worldwide and regulated by law in some 40 national jurisdictions.

As a health care service, chiropractic offers a conservative management approach and, although it requires skilled practitioners, it does not always need auxiliary staff and therefore generates minimal add-on costs. Therefore, one of the benefits of chiropractic may be that it offers potential for cost-effective management of neuromusculoskeletal disorders (1, 2, 3).

The World Health Organization (WHO) encourages and supports countries in the proper use of safe and effective medication, products and practices in national health services. In the light of the situation described above, there is a need to develop guidelines on chiropractic education and safe practice, including information on contraindications for such care.

Regulations for chiropractic practice vary considerably from country to country. In some countries, e.g. the United States of America, Canada and some European countries, chiropractic has been legally recognized and formal university degrees have been established. In these countries, the profession is regulated and the prescribed educational qualifications are generally consistent, satisfying the requirements of the respective accrediting agencies.

However, many countries have not yet developed chiropractic education or established laws to regulate the qualified practice of chiropractic. In addition, in some countries, other qualified health professionals and lay practitioners may use techniques of spinal manipulation and claim to provide chiropractic services, although they may not have received chiropractic training in an accredited programme.

With the rapid growth in demand for chiropractic services, other health care practitioners may wish to gain additional qualifications in chiropractic. Conversion programmes have been developed to enable persons with substantial basic medical training to acquire the additional necessary education and skills to become chiropractors, and these could be further expanded. Such programmes should be flexible in order to take account of different educational backgrounds and previous medical training.

In countries where no regulatory legislation currently exists, there may be no educational, professional or legal framework governing the practice of chiropractic. The minimum educational requirements needed to encourage practitioners to register and to protect patients are outlined in this document. The recognition and implementation of these minimum requirements will depend on individual country situations.

In some countries with educational limitations, lack of financial resources or unsatisfactory integration of indigenous communities into mainstream society, primary health care workers specifically trained in myotherapy may help to enhance health care services. This may also form the basis for introducing some chiropractic principles of health care and therapeutic interventions into national health systems which would otherwise be unavailable for the management of common musculoskeletal conditions and the optimization of health. Such programmes are identified in Part 1, Section 9 below.

Objectives

In order to facilitate qualified and safe practice of chiropractic as well as to protect the public and patients, the objectives of these guidelines are:

- to provide minimum requirements for chiropractic education
- to serve as a reference for national authorities in establishing an examination and licensing system for the qualified practice of chiropractic
- to review contraindications in order to minimize the risk of accidents and to advise on the management of complications occurring during treatment and to promote the safe practice of chiropractic.

How to use this document

Part I of the guidelines covers basic requirements for different training programmes, each one designed for trainees with various educational backgrounds, including nonmedics, physicians wishing to use chiropractic and primary health care workers. This part provides a reference for the establishment of various training programmes, particularly where no formal education degree has been established. If national health authorities wish to evaluate the training programme, they may consult Councils on Chiropractic Education International (CCEI – www.cceintl.org). This organization does not function as an accrediting agency, but promotes an understanding of the variations between recognized accrediting bodies through dialogue and communication.

A system of examination and licensing may be established or adapted on the basis of this training programme to ensure the competence of the trainees and to avoid the practice of chiropractic by unqualified persons. It is to be hoped that this will deter commercial exploitation of chiropractic education and practice, which is a significant and growing problem in some countries.

Part II of the guidelines deals with the safety of spinal manipulative therapy and the contraindications to its use.

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Glossary

The terms used in these guidelines are defined as follows.

Adjustment

Any chiropractic therapeutic procedure that ultimately uses controlled force, leverage, direction, amplitude and velocity, which is applied to specific joints and adjacent tissues. Chiropractors commonly use such procedures to influence joint and neurophysiological function.

Biomechanics

The study of structural, functional and mechanical aspects of human motion. It is concerned mainly with external forces of either a static or dynamic nature, dealing with human movement.

Chiropractic

A health care profession concerned with the diagnosis, treatment and prevention of disorders of the neuromusculoskeletal system and the effects of these disorders on general health. There is an emphasis on manual techniques, including joint adjustment and/or manipulation, with a particular focus on subluxations.

Fixation

The state whereby an articulation has become fully or partially immobilized in a certain position, restricting physiological movement.

Joint manipulation

A manual procedure involving directed thrust to move a joint past the physiological range of motion, without exceeding the anatomical limit.

Joint mobilization

A manual procedure without thrust, during which a joint normally remains within its physiological range of motion.

Neuromusculoskeletal

Pertaining to the musculoskeletal and nervous systems in relation to disorders that manifest themselves in both the musculoskeletal and nervous systems, including disorders of a biomechanical or functional nature.

Palpation

(1) The act of feeling with the hands. (2) The application of variable manual pressure through the surface of the body for the purpose of determining the shape, size, consistency, position, inherent motility and health of the tissues beneath.

Posture

(1) The attitude of the body. (2) The relative arrangement of the parts of the body. Good posture is that state of muscular and skeletal balance that protects the supporting structures of the body against injury or progressive deformity irrespective of the attitude (erect, lying, squatting, stooping) in which the structures are working or resting.

Spinal manipulative therapy

Includes all procedures where the hands or mechanical devices are used to mobilize, adjust, manipulate, apply traction, massage, stimulate or otherwise influence the spine and paraspinal tissues with the aim of influencing the patient's health.

Subluxation¹

A lesion or dysfunction in a joint or motion segment in which alignment, movement integrity and/or physiological function are altered, although contact between joint surfaces remains intact. It is essentially a functional entity, which may influence biomechanical and neural integrity.

Subluxation complex (vertebral)

A theoretical model and description of the motion segment dysfunction, which incorporates the interaction of pathological changes in nerve, muscle, ligamentous, vascular and connective tissue.

Thrust

The sudden manual application of a controlled directional force upon a suitable part of the patient, the delivery of which effects an adjustment.

¹ This definition is different from the current medical definition, in which subluxation is a significant structural displacement, and therefore visible on static imaging studies.

Part 1: Basic training in chiropractic

1. General considerations

1.1. Historical information

Although spinal manipulation dates back to Hippocrates and the ancient Greek physicians (4), the discovery of chiropractic is attributed to D.D. Palmer in 1895 (5), with the first school for the training of chiropractors commencing in the United States of America in Davenport, Iowa in 1897 (6).

Palmer developed the chiropractic theory and method from a variety of sources, including medical manipulation, bonesetting and osteopathy, as well as incorporating unique aspects of his own design. The term “chiropractic”, derived from Greek roots to mean “*done by hand*”, originated with Palmer and was coined by a patient, the Reverend Samuel H. Weed (7).

Chiropractic developed in the United States of America during a period of significant reformation in medical training and practice. At the time, there was a great variety of treatment options, both within conventional medicine and among innumerable other alternative health care approaches (8).

1.2 Philosophy and basic theories of chiropractic

Chiropractic is a health care profession concerned with the diagnosis, treatment and prevention of disorders of the neuromusculoskeletal system and the effects of these disorders on general health. There is an emphasis on manual techniques, including joint adjustment and/or manipulation, with a particular focus on the subluxation.

The concepts and principles that distinguish and differentiate the philosophy of chiropractic from other health care professions are of major significance to most chiropractors and strongly influence their attitude and approach towards health care.

A majority of practitioners within the profession would maintain that the philosophy of chiropractic includes, but is not limited to, concepts of holism, vitalism, naturalism, conservatism, critical rationalism, humanism and ethics (9).

The relationship between structure, especially the spine and musculoskeletal system, and function, especially as coordinated by the nervous system, is central to chiropractic and its approach to the restoration and preservation of health (9, 10:167).

It is hypothesized that significant neurophysiological consequences may occur as a result of mechanical spinal functional disturbances, described by chiropractors as subluxation and the vertebral subluxation complex (9, 10:169-170, 11).

Chiropractic practice emphasizes the conservative management of the neuromusculoskeletal system, without the use of medicines and surgery (10:169-170, 11). Biopsychosocial causes and consequences are also significant factors in management of the patient.

As primary-contact health care practitioners, chiropractors recognize the importance of referring to other health care providers when it is in the best interests of the patient (10).

1.3 Administrative and academic considerations

The training of chiropractors involves certain administrative and academic considerations, for example:

- who could be trained?
- what would be the practitioner's role and responsibilities?
- what education would be required?
- where would such education be provided, and by whom?
- would suitable programmes have to be developed from scratch, or could existing substandard courses be strengthened or appropriately modified?
- are suitably qualified chiropractic educators available, or would they have to be trained?
- what would be the mechanisms for official recognition of practitioners, programmes, educators and institutions?

1.4 Monitoring and evaluation

In order to introduce qualified practice and proper use of chiropractic, systems are needed to monitor the entire profession, the performance of practitioners and the education and training of practitioners.

Most countries that regulate the profession use national, regional, state or provincial examinations. Alternatively, health authorities may delegate to professional associations the right to regulate themselves and to ensure the competence of individuals.

As has been the case in a number of countries or regions in the past, prior to the legislative recognition of chiropractic, a government may wish to evaluate both the positive and negative consequences of including it within the health care service (12, 13, 14, 15, 16, 17).

1.5 Further education and career possibilities

It is recognized that, as an interim measure prior to the establishment of a full chiropractic programme, it may be necessary to provide "limited" programmes to supplement existing health care education, in order to begin to register chiropractors in these countries and ensure qualified practice of chiropractic. How countries will recognize chiropractors with "limited" programmes will vary according to individual country situations.

Practitioners with limited or no formal chiropractic education, practising as "chiropractors", should upgrade their education to meet the requirements laid down by their government when regulations are put into place. In this way such personnel can be effectively incorporated into the domestic professional workforce.

2. Acceptable levels of education and retraining

Summarizing various training programmes in different countries, these guidelines address two levels and four different settings for chiropractic education, each preparing health care practitioners to practise in the health care system as a chiropractor. These options are available to countries to meet their individual needs.

2.1 Category I - full chiropractic education

- for students with no prior health care education or experience
- as the supplementary education required for medical doctors or other appropriate health care professionals to acquire a recognized qualification as a chiropractor

2.2 Category II - limited chiropractic education

- *A limited training programme for medical personnel and other appropriate health care professionals in countries or regions introducing chiropractic where no current legislation governing the practice exists; it does not lead to full qualification.*

Such training should be conducted as a temporary measure to establish a provision of chiropractic and/or as the first stage in the development of a full chiropractic programme. Such a course is established as a minimum registerable requirement and courses of this type should be replaced by appropriate full-time programmes as soon as it is practical to do so.

- *The training required to attain a minimally acceptable level of competency for students who represent existing providers of chiropractic in countries or regions without regulations but intending to introduce legislation governing the practice of chiropractic.*

This provision does not lead to a full qualification, but to a minimal registerable standard. Courses of this type are a temporary measure, and should be replaced by appropriate full-time programmes as soon as it is practical to do so.

3. Models of chiropractic education

3.1 Category I(A)

There are many slight variations on the following models: however, in general, there are three major educational paths involving full-time education:

- A four-year full-time programme within specifically designated colleges or universities, following 1-4 years of suitable pre-chiropractic training in basic sciences at university level; for an example, see Annex 2.
- A five-year bachelor integrated chiropractic degree programme offered within a public or private university, with student entrance based upon the applicant's matriculation status and the university's admission requirements and quota restrictions.
- A two or three-year pre-professional Masters programme following the satisfactory completion of a specifically designed bachelor degree programme in chiropractic or a suitably adapted health science degree.

3.2 Category I(B)

Programmes for persons with prior medical or other health care professional education. Such courses would vary in length and subject requirements, depending on the applicant's previous educational background. For an example, see Annex 3.

3.3 Category II(A)

Conversion programmes for persons with prior medical or other health care professional education to obtain a "limited" chiropractic educational qualification should be conveniently structured, of a part-time nature, satisfying at least all the minimum requirements though not leading to a full qualification. For an example, see Annex 4.

3.4 Category II(B)

In these programmes, the course content and length may also vary greatly depending upon the applicant's previous training and experience. On completion of the programmes, students will have met the requirements of a first bachelor-level programme in chiropractic through part-time study and acquired the necessary knowledge and skills to provide safe, if basic, chiropractic care. Such courses do not lead to a full chiropractic qualification. For an example, see Annex 5.

4. Full chiropractic education – category I(A)

This refers to the training programme for persons without previous medical or other health care professional education.

4.1 Objective

The aim at this level is to provide an education consistent with the requirements established in those countries where government regulations have been enacted. Based upon this education, chiropractors practise as primary-contact health care providers, either independently or as members of health care teams at the community level within health care centres or hospitals.

4.2 Entrance requirements

An acceptable applicant would have completed secondary schooling, university entrance or its equivalent with appropriate training in basic sciences, as required by the particular programme.

4.3 Basic training

Irrespective of the model of education utilized, for those without relevant prior health care education or experience, not less than 4200 student/teacher contact hours are required, or the equivalent, in four years of full-time education. This includes not less than 1000 hours of supervised clinical training.

4.4 Core syllabus

4.4.1 Educational objectives

Competence in the practice of chiropractic requires the acquisition of relevant knowledge, understanding, attitudes, habits and psychomotor skills. The curriculum and the student evaluation processes should be designed to ensure that the chiropractic graduate demonstrates the following skills.

He/she should possess a comprehensive understanding and command of the skills and knowledge that constitute the basis of chiropractic in its role as a health care profession, as follows:

- achieve a fundamental knowledge of health sciences, with a particular emphasis on those related to vertebral subluxation and the neuromusculoskeletal systems;
- achieve a comprehensive theoretical understanding of the biomechanics of the human locomotor system in normal and abnormal function and, in particular, possess the clinical ability needed for an expert assessment of spinal biomechanics;
- appreciate chiropractic history and the unique paradigm of chiropractic health care;
- achieve a level of skill and expertise in the manual procedures emphasizing spinal adjustment/manipulation regarded as imperative within the chiropractic field;
- possess the ability to decide whether the patient may safely and suitably be treated by chiropractic or should be referred to another health professional or facility for separate or comanaged care.

He/she should perform at the clinical level expected of a primary-contact health care practitioner, as follows:

- competently perform a differential diagnosis of the complaints presented by patients;
- achieve particular expertise in diagnostic imaging, orthopaedics, pain management and rehabilitation of the neuromusculoskeletal system and/or diagnosis and management of vertebral subluxation;
- achieve competence in interpreting clinical laboratory findings;
- acquire the ability to appraise scientific and clinical knowledge critically;
- understand and apply fundamental scientific/medical information, and be capable of consulting with and/or referring to other health care providers;
- generally possesses the necessary knowledge and skill to serve and communicate with members of the public in an effective and safe manner.

He/she should be able to:

- apply fundamental scientific knowledge of the human body
- understand the nature of normal and abnormal biomechanics and posture, as well as the pathophysiology of the neuromusculoskeletal system and its relationship to other anatomical structures
- establish a satisfactory rapport with patients
- gather and record clinical information and communicate such information
- accurately interpret clinical laboratory findings and diagnostic imaging of the neuromusculoskeletal system
- establish an accurate clinical diagnosis
- accept responsibility for the patient's welfare
- apply sound judgment in deciding on appropriate care
- provide competent treatment
- provide competent continuing health care
- understand the application of contemporary methods and techniques in wellness care
- accept the responsibilities of a chiropractor
- appreciate the expertise and scope of chiropractic and other health care professions in order to facilitate intradisciplinary and interdisciplinary cooperation and respect
- select research subjects, design simple research projects, critically appraise clinical studies and participate in multi-disciplinary research programmes
- commit to the need for lifelong learning and ongoing professional development.

4.4.2 Basic science components

Recognized programmes either require essential basic science components as prerequisites, or include necessary units of chemistry, physics and biology within the first-year curriculum.

4.4.3 Preclinical science components

The preclinical science components within chiropractic programmes generally include:

anatomy, physiology, biochemistry, pathology, microbiology, pharmacology and toxicology, psychology, dietetics and nutrition, and public health.

4.4.4 Clinical science components

Clinical science components would include or cover:

history-taking skills, general physical examination, laboratory diagnosis, differential diagnosis, radiology, neurology, rheumatology, eyes, ears, nose and

throat, orthopaedics, basic paediatrics, basic geriatrics, basic gynaecology and obstetrics, and basic dermatology.

4.4.5 Chiropractic sciences and additional subjects

These generally include:

- *applied neurology and applied orthopaedics;*
- *clinical biomechanics, including, specific chiropractic/biomechanical patient assessment by methods such as:*
 - gait and postural analysis;
 - static and motion palpation of joints and bony structures;
 - assessment of soft-tissue tone and function;
 - diagnostic imaging and analysis;
- *history, principles and health care philosophy pertinent to chiropractic;*
- *ethics and jurisprudence pertaining to the practice of chiropractic;*
- *background studies of traditional medicine and complementary/alternative healthcare.*

4.4.6 Patient management interventions

Including:

- manual procedures, particularly spinal adjustment, spinal manipulation, other joint manipulation, joint mobilization, soft-tissue and reflex techniques;
- exercise, rehabilitative programmes and other forms of active care;
- psychosocial aspects of patient management;
- patient education on spinal health, posture, nutrition and other lifestyle modifications;
- emergency treatment and acute pain management procedures as indicated;
- other supportive measures, which may include the use of back supports and orthotics;
- recognition of contraindications and risk management procedures, the limitations of chiropractic care, and of the need for protocols relating to referral to other health professionals.

4.4.7 Documentation and clinical record-keeping

Including:

- recording of the primary complaints, health history, physical examination findings, assessment, diagnosis and treatment plan;
- accurate documentation of every patient encounter;
- re-examination findings and documentation of any modifications to care plans;
- appreciation of confidentiality and privacy issues;

- consent obligations;
- insurance and legal reporting.

4.4.8 Research

Including:

- basic research methodology and biostatistics;
- interpretation of evidence-based procedures/protocols and best-practice principles;
- an epidemiological approach to clinical record-keeping, encouragement to document particular case-studies and participate in field research projects;
- development of a critical-thinking approach in clinical decision-making, the consideration of published papers and relevant clinical guidelines;
- development of the necessary skills to keep abreast of the relevant current research and literature.

5. Full chiropractic education – category I(B)

Full chiropractic education, including entrance requirements, generally requires from four to seven years' full-time tertiary study. The curriculum includes a study of the basic and preclinical sciences similar in duration and quality to that found in a medical education.

Medical doctors and other health care professionals may complete the requirements for a full chiropractic education over a shorter period because of credits granted in view of their prior education.

5.1 Objective

The objective of such an educational programme is to enable suitable health care practitioners to qualify as chiropractors.

5.2 Special courses

Such programmes may be full-time or part-time, depending upon the educational experience and circumstances of the student cohort. Programmes are designed to cover those subjects not addressed in previous health care education. This would include the specific chiropractic subjects and those medical science subjects where the training has been inadequate for the requirements of a chiropractor.

5.3 Basic training

The duration of the training depends upon the credits received from previous education and experience, but should not be less than 2200 hours over a two- or three-

year full-time or part-time programme, including not less than 1000 hours of supervised clinical experience.

6. Limited chiropractic education – category II(A)

In some countries, it has not been practicable to adopt the models outlined in Category I, particularly when chiropractic education is first introduced and where significant numbers of students exist who have prior medical and other health care education and experience. As has been done already in certain jurisdictions, such students may obtain basic clinical skills for the delivery of chiropractic services with a more limited supplementary course, of full-time or part-time education, depending on the extent of their previous training.

This approach should be employed as an interim measure to establish the availability of chiropractic services. A full chiropractic educational programme for students choosing chiropractic as their primary career should be implemented as soon as it is practicable to do so.

6.1 Objective

The objective of such an educational programme is to qualify suitable and available health care professionals to practise as chiropractors in the health care system.

This type of programme could be developed to facilitate an early introduction of chiropractic at a safe and acceptably effective level.

Programmes of this type should strongly consider the value of having an accredited chiropractic programme as a collaborative partner providing educational guidance.

6.2 Special courses

The programme is designed to cover those subjects which are important for the practice of chiropractic and which have not been covered appropriately in previous health care education.

Part-time courses have been designed to be convenient for practitioners maintaining their current employment, extending appropriate credits to persons depending upon their level of health care training. For an example, see Annex 4.

6.3 Basic training

Although dependent upon the human resources available for health care, the entrance requirement would normally be completion of university-level training as a health care practitioner.

The duration of training would be not less than 1800 hours over a two- or three-year full-time or part-time programme, including not less than 1000 hours of supervised clinical experience.

7. Limited chiropractic education – category II(B)

This refers to the programmes necessary for persons with limited training, who identify themselves as “chiropractors”, to obtain minimum requirements for safe practice. In many countries, no formal requirements exist for minimum chiropractic education. This leads to the unqualified practice of chiropractic, which is undesirable for patient safety. These programmes prepare graduates to attain the minimal acceptable requirements for the safe practice of chiropractic.

7.1 Objective

To upgrade the knowledge and skills of existing practitioners utilizing some form of chiropractic, for the purpose of ensuring public safety and provision of adequate chiropractic service. This approach should be employed as an interim measure only.

7.2 Special courses

As the existing training of practitioners varies greatly, the educational models adopted to address these situations also vary. Past experience suggests that the development of courses may require specific needs-assessment studies.

The example used in Annex 5 is a basic three-year, part-time programme designed to meet or exceed the minimum requirements. The applicant practitioners are offered credits or considerations based upon their previous training or existing qualifications. Admission requirements for such programmes have been the completion of a qualifying local programme and an adequate period of clinical experience, typically 2-3 years.

Programmes of this type should strongly consider the value of having an accredited chiropractic programme as a collaborative partner providing educational guidance.

7.3 Basic training

The duration of training is not less than 2500 hours in a full-time or part-time programme, including not less than 1000 hours of supervised clinical experience. For an example, see Annex 5.

8. Assessment and examination of students in chiropractic

In order to ensure patient safety and the qualified practice of chiropractic, a system of independent examination and licensing is necessary. On completion of the full period of training, the student's theoretical knowledge and clinical competence in chiropractic should be independently evaluated through official examinations.

Continuing professional development should be encouraged for maintenance of licensing.

9. Primary health care workers and chiropractic

9.1 Primary health care workers - myotherapists

Training has been developed by individual chiropractors within multidisciplinary settings, with programmes that meet national requirements. These courses introduce basic musculoskeletal soft-tissue techniques, massage and other management skills for indigenous nurses and community health workers who apply chiropractic health care principles and basic interventions without employing spinal manipulative techniques. Such training should be sensitive to existing cultural and ethnic issues and should explore and embrace, where practical, local traditional practices.

Certain techniques to alleviate pain and address musculoskeletal dysfunction, as well as the constructive management of musculoskeletal factors amenable to change, may be taught to primary health care workers, particularly community health workers, increasing the quality of life for people in rural or remote areas (18).

Such workers may have a valuable role in community health education in various ways. These may include counselling on healthy lifestyles, prevention of musculoskeletal disorders and other public health issues.

9.2 Objective

The objective of such courses is to create a category of primary health care worker to provide a first level of treatment and education in a community setting as an adjunct to other community health care measures.

9.3 Course components

Courses contain a combination of flexible, compulsory and elective units that address various competencies to meet existing requirements on-site. These may include:

- remedial massage;
- specific myotherapy techniques;
- culturally appropriate health and lifestyle advice;
- addressing modifiable musculoskeletal risk factors, such as maintaining ideal weight and physical activity, smoking cessation and injury prevention;
- musculoskeletal assessment;
- trigger-point techniques;
- myofascial tension technique;
- deep tissue stimulation technique;
- stretching techniques;
- sports injury first aid (including taping and bracing techniques).

Joint adjustment/manipulation is excluded from these training programmes. Indications warranting this type of care would require attention by a chiropractor or other suitably qualified practitioner.

9.4 Method and duration of training

Training involves workshops, interactive demonstrations, clinical applications and assignments.

The duration (supervised) of such a training programme would be not less than 300 hours.

Part 2: Guidelines on safety of chiropractic

1. Introduction

When employed skilfully and appropriately, chiropractic care is safe and effective for the prevention and management of a number of health problems. There are, however, known risks and contraindications to manual and other treatment protocols used in chiropractic practice.

While it is beyond the scope of these guidelines to review the various indications for chiropractic care and the supportive research evidence, this part will review contraindications to the primary therapeutic procedures used by chiropractors – techniques of adjustment, manipulation and mobilization, generally known as spinal manipulative therapy.

Contrary to the understanding of many within health care, chiropractic is not synonymous with, or limited to, the application of specific manipulative techniques. The “adjustment” and various manual therapies are central components of a chiropractor’s treatment options: however, the profession as an established primary contact health service has the educational requirements and respects the responsibilities associated with such a status.

Chiropractic practice involves a general and specific range of diagnostic methods, including skeletal imaging, laboratory tests, orthopaedic and neurological evaluations, as well as observational and tactile assessments. Patient management involves spinal adjustment and other manual therapies, rehabilitative exercises, supportive and adjunctive measures, patient education and counselling. Chiropractic practice emphasizes conservative management of the neuromusculoskeletal system, without the use of medicines and surgery.

2. Contraindications to spinal manipulative therapy

Spinal manipulative therapy is the primary therapeutic procedure used by chiropractors, and because spinal manipulation involves the forceful passive movement of the joint beyond its active limit of motion, chiropractors must identify the risk factors that contraindicate manipulation or mobilization (19, 20, 21).

Manipulations can be classified as either nonspecific, long-lever techniques or specific, short-lever, high-velocity, low-amplitude techniques (the most common forms of chiropractic adjustment) which move a joint through its active and passive ranges of movement to the parapsychological space (22).

Mobilization is where the joint remains within a passive range of movement and no sudden thrust or force is applied.

Contraindications to spinal manipulative therapy range from a nonindication for such an intervention, where manipulation or mobilization may do no good, but should cause no harm, to an absolute contraindication, where manipulation or mobilization could be life-threatening. In many instances, manipulation or mobilization is contraindicated in one area of the spine, yet beneficial in another region (23). For example, hypermobility may be a relative contraindication to manipulation in one area of the spine, although it may be compensating for movement restriction in another where manipulation is the treatment of choice (24, 25). Of course, the chiropractor's scope in manual therapy extends beyond the use of manipulation or mobilization and includes manual traction, passive stretching, massage, ischaemic compression of trigger points and reflex techniques designed to reduce pain and muscle spasm.

Successful spinal mobilization and/or manipulation involves the application of a force to the areas of the spine that are stiff or hypomobile, while avoiding areas of hypermobility or instability (26).

There are a number of contraindications to joint mobilization and/or manipulation, especially spinal joint manipulation, which have been reviewed in practice guidelines developed by the chiropractic profession (27, 28) and in the general chiropractic literature (29, 30, 31). These may be absolute, where any use of joint manipulation or mobilization is inappropriate because it places the patient at undue risk (23, 32:290-291), or relative, where the treatment may place the patient at undue risk unless the presence of the relative contraindication is understood and treatment is modified so that the patient is not at undue risk. However, spinal manipulative therapy, particularly low-force and soft-tissue techniques, may be performed on other areas of the spine, depending upon the injury or disease present. Clearly, in relative contraindications, low-force and soft-tissue techniques are the treatments of choice, as

both may be performed safely in most situations where a relative contraindication is present.

Conditions are listed first by absolute contraindications to spinal manipulative therapy. Absolute and relative contraindications to spinal manipulative therapy generally are then outlined as they relate to categories of disorders.

2.1 Absolute contraindications to spinal manipulative therapy

It should be understood that the purpose of chiropractic spinal manipulative therapy is to correct a joint restriction or dysfunction, not necessarily to influence the disorders identified, which may be coincidentally present in a patient undergoing treatment for a different reason. Most patients with these conditions will require referral for medical care and/or comanagement (33).

1. anomalies such as dens hypoplasia, unstable os odontoideum, etc.
2. acute fracture
3. spinal cord tumour
4. acute infection such as osteomyelitis, septic discitis, and tuberculosis of the spine
5. meningeal tumour
6. haematomas, whether spinal cord or intracanalicular
7. malignancy of the spine
8. frank disc herniation with accompanying signs of progressive neurological deficit
9. basilar invagination of the upper cervical spine
10. Arnold-Chiari malformation of the upper cervical spine
11. dislocation of a vertebra
12. aggressive types of benign tumours, such as an aneurismal bone cyst, giant cell tumour, osteoblastoma or osteoid osteoma
13. internal fixation/stabilization devices
14. neoplastic disease of muscle or other soft tissue
15. positive Kernig's or Lhermitte's signs
16. congenital, generalized hypermobility
17. signs or patterns of instability
18. syringomyelia
19. hydrocephalus of unknown aetiology
20. diastematomyelia
21. cauda equina syndrome

NOTE: In cases of internal fixation/stabilization devices, no osseous manipulation may be performed, although soft-tissue manipulation can be safely used. Spinal manipulative therapy may also only be absolutely contraindicated in the spinal region in which the pathology, abnormality or device is located, or the immediate vicinity.

3. Contraindications to joint manipulation by category of disorder

3.1 Articular derangement

Inflammatory conditions, such as rheumatoid arthritis, seronegative spondyloarthropies, demineralization or ligamentous laxity with anatomical subluxation or dislocation, represent an absolute contraindication to joint manipulation in anatomical regions of involvement.

Subacute and chronic ankylosing spondylitis and other chronic arthropathies in which there are no signs of ligamentous laxity, anatomic subluxation or ankylosis are not contraindications to joint manipulation applied at the area of pathology.

With degenerative joint disease, osteoarthritis, degenerative spondyloarthropathy and facet arthrosis, treatment modification may be warranted during active inflammatory phases.

In patients with spondylitis and spondylolisthesis, caution is warranted when joint manipulation is used. These conditions are not contraindications, but with progressive slippage, they may represent a relative contraindication.

Fractures and dislocations, or healed fractures with signs of ligamentous rupture or instability, represent an absolute contraindication to joint manipulation applied at the anatomical site or region.

Atlantoaxial instability represents an absolute contraindication to joint manipulation at the area of pathology.

Articular hypermobility and circumstances where the stability of a joint is uncertain represent a relative contraindication to joint manipulation at the area of pathology.

Postsurgical joints or segments with no evidence of instability are not a contraindication to joint manipulation but may represent a relative contraindication, depending on clinical signs (e.g. response, pre-test tolerance or degree of healing).

Acute injuries of joint and soft-tissues may require modification of treatment. In most cases, joint manipulation at the area of pathology is not contraindicated.

Although trauma is not an absolute contraindication to manipulation, patients who have suffered traumatic events require careful examination for areas of excessive motion, which may range from mild heightened mobility to segmental instability.

3.2 Bone-weakening and destructive disorders

Active juvenile avascular necrosis, specifically of the weightbearing joints, represents an absolute contraindication to joint manipulation at the area of pathology.

Manipulation of bone weakened by metabolic disorders is a relative contraindication because of the risk of pathological fractures (34, 35). Demineralization of bone warrants caution. It represents a relative contraindication to joint manipulation at the area of pathology. The spine and ribs are particularly vulnerable to osteoporotic fracture, and those patients who have a history of long-term steroid therapy, those with osteoporosis, and women who have passed menopause are most susceptible (19:229, 36). Benign bone tumours may result in pathological fractures and therefore represent a relative-to-absolute contraindication to joint manipulation at the area of pathology. Tumour-like and dysphasic bone lesions may undergo malignant transformation or weaken bone to the point of pathological fracture, and therefore represent a relative-to-absolute contraindication to joint manipulation at the area of pathology.

Malignancies, including malignant bone tumours, are conditions for which joint manipulation at the area of pathology is absolutely contraindicated.

Infection of bone and joint represents an absolute contraindication to joint manipulation at the area of pathology.

Severe or painful disc pathology, such as discitis or disc herniations, are relative contraindications and nonforceful, non-high-velocity and nonrecoil manipulative techniques must be employed.

3.3 Circulatory and haematological disorders

Clinical manifestations of vertebrobasilar insufficiency syndrome warrant particular caution and represent a relative-to-absolute contraindication to cervical joint manipulation at the area of pathology. This would include patients with a previous history of stroke (37).

When a diagnosis of an aneurysm involving a major blood vessel has been made, a relative-to-absolute contraindication may exist for joint manipulation within the area of pathology.

Bleeding is a potential complication of anticoagulant therapy or certain blood dyscrasias. These disorders represent a relative contraindication to joint manipulation.

3.4 Neurological disorders

Signs and symptoms of acute myelopathy, intracranial hypertension, signs and symptoms of meningitis or acute cauda equina syndrome represent absolute contraindications to joint manipulation.

3.5 Psychological factors

It is important to consider psychological factors in the overall treatment of patients who seek chiropractic care. Certain aberrant behaviour patterns represent relative contraindications to continued or persistent treatment. Failure to differentiate patients with psychogenic complaints from those with organic disorders can result in inappropriate treatment. Moreover, it can delay appropriate referral. Patients who may need referral include malingerers, hysterics, hypochondriacs and those with dependent personalities (25:162).

4. Contraindications to adjunctive and supportive therapies

4.1 Electrotherapies

Adjunctive therapies in chiropractic practice may include electrotherapies such as ultrasound, interferential current and transcutaneous electrical nerve stimulation (TENS). The equipment for these modes of treatment needs to be properly maintained and used in accordance with appropriate specifications and clinical indications, but in these circumstances such therapeutic methods pose only a very limited risk of causing harm (38, 39, 40).

4.2 Exercises and supplementary supportive measures

A wide range of rehabilitative exercises and supportive measures are used in chiropractic practice. These should be prescribed in accordance with each patient's individual requirements, and the dosage or level of exercise should be specifically designed to address the individual's limitations and needs, being generally conservative at first and then increasing over time. In these circumstances, there are no significant contraindications which could not be addressed by common sense and the practitioner's professional knowledge (41).

5. Accidents and adverse reactions

5.1 Causes of complications and adverse reactions

See Henderson (42):

- lack of knowledge
- lack of skill
- lack of rational attitude and technique.

5.2 Examples of inappropriate practices

See Henderson (42):

- inadequate diagnostic habits
- inadequate diagnostic imaging evaluation
- delay in referral
- delay in re-evaluation
- lack of interprofessional cooperation
- failure to take into account patient tolerances
- poor technique selection or implementation
- excessive or unnecessary use of manipulation.

5.3 Serious adverse consequences

Manipulation is regarded as a relatively safe, effective and conservative means of providing pain relief and structural improvement of biomechanical problems of the spine. As with all therapeutic interventions, however, complications can arise. Serious neurological complications and vascular accidents have been reported, although both are rare (43).

5.3.1 Cervical region

- vertebrobasilar accidents (see part 2, section 3.3 above)
- Horner's syndrome (44)
- diaphragmatic paralysis (45)
- myelopathy (46)
- cervical disc lesions (25:66)
- pathological fractures (47, 48)

5.3.2 Thoracic region

- rib fracture and costochondral separation (49)

5.3.3 Lumbar region

- an increase in neurological symptoms that originally resulted from a disc injury (50)
- cauda equina syndrome (51, 52)
- lumbar disc herniation (52)
- rupture of abdominal aortic aneurysm (53)

5.4 Vascular accidents

Understandably, vascular accidents are responsible for the major criticism of spinal manipulative therapy. However, it has been pointed out that “critics of manipulative therapy emphasize the possibility of serious injury, especially at the brain stem, due to arterial trauma after cervical manipulation. It has required only the very rare reporting of these accidents to malign a therapeutic procedure that, in experienced hands, gives beneficial results with few adverse side effects” (43).

In very rare instances, the manipulative adjustment to the cervical spine of a vulnerable patient becomes the final intrusive act which, almost by chance, results in a very serious consequence (54, 55, 56, 57).

5.4.1 Mechanism

Vertebrobasilar artery insufficiency is the result of transient, partial or complete obstruction of one or both of the vertebral arteries or its branches. The signs and symptoms of vertebral artery syndrome arising from that compression include vertigo, dizziness, light-headedness, giddiness, disequilibria, ataxia, walking difficulties, nausea and/or vomiting, dysphasia, numbness to one side of the face and/or body, sudden and severe neck/head pain after spinal manipulative therapy (43:579).

Most cases of arterial thrombosis and infarction generally occur in the elderly and are spontaneous and unrelated to trauma.

5.4.2 Incidence

Vertebral artery syndrome attributed to cervical manipulation occurs in younger patients. The average age is under 40, and it occurs more often in women than men. In 1980, Jaskoviak estimated that five million treatments had been given at National College of Chiropractic clinics over a 15-year period, without a single case of vertebral artery syndrome associated with manipulation (58).

While it is understood that the actual incidence of cerebral vascular injury could be higher than the number of reported incidents, estimates from recognized authorities in research in this area have varied from as little as one fatality in several tens of millions of manipulations (59), one in 10 million (60) and one in one million (61) to the slightly more significant “one important complication in 400 000 cervical manipulations” (62).

Serious complications are very rare, and it would seem unlikely that the adverse occurrences have been solely attributable to the therapeutic intervention.

5.5 Prevention of complications from manipulation

Incidents and accidents that result from manipulative therapy can be prevented by careful appraisal of the patient's history and examination findings. Information must be sought about coexisting diseases and the use of medication, including long-term steroid use and anticoagulant therapy. A detailed and meticulous examination must be carried out. The use of appropriate techniques is essential, and the chiropractor must avoid techniques known to be potentially hazardous (19:234-235).

6. First aid training

All recognized programmes in chiropractic contain standard courses in first aid, either taught within the institution or required to be taken from such authorities as Red Cross. This is the case in all training programmes, whether they are full-time, conversion or standardization programmes. Also, within risk management courses, time is spent on procedures to minimize the possibility of injuries and the appropriate action to follow should an incident occur.

Annex 1: List of participants

WHO Consultation on Chiropractic 2 - 4 December 2004, Milan, Italy

Participants

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Annex 2: A sample four-year, full-time accredited programme

Category I(A) Subjects taught in a typical semester-based chiropractic programme, by year and number of hours.

DIVISION	FIRST YEAR (HOURS)	SECOND YEAR (HOURS)	THIRD YEAR (HOURS)	FOURTH YEAR (HOURS)
Biological Sciences	Human Anatomy (180) Microscopic Anatomy (140) Neuroanatomy (72) Neuroscience I (32) Biochemistry (112) Physiology (36)	Pathology (174) Lab Diagnosis (40) Microbiology & Infectious Disease (100) Neuroscience II (85) Nutrition (60) Immunology (15)	Lab Diagnosis (32) Toxicology (12)	Clinical Nutrition (26) Community Health (40)
Clinical Sciences	Normal Radiographic Anatomy (16) Radiation Biophysics and Protection (44)	Intro. Diagnosis (85) Intro Bone Pathology (48) Normal Roentgen, Variants & Roentgenometrics (40)	Orthopaedics & Rheumatology (90) Neuro. Diagnosis (40) Diagnosis & Symptomatology (120) Differential Diagnosis (30) Radiological Technology (40) Arthritis & Trauma (48)	Clinical Psychology (46) Emergency Care (50) Child Care (20) Female Care (30) Geriatrics (20) Abdomen, Chest & Special Radiographic Procedures (40)
Chiropractic Sciences	Chiropractic Principles I (56) Basic Body Mechanics (96) Chiropractic Skills I (100)	Chiropractic Principles II (60) Chiropractic Skills II (145) Spinal Mechanics (40)	Chiropractic Principles III (42) Clinical Biomechanics (100) Chiropractic Skills III (145) Auxiliary Chiropractic Therapy (60) Introduction to Jurisprudence & Practice Development (16)	Integrated Chiropractic Practice (90) Jurisprudence & Practical Development (50)
Clinical Practicum	Observation I (30)	Observation II (70)	Observation III (400)	Internship (750) Clerkships: Auxiliary Therapy (30); Clinical Lab (20) Clinical X-ray: Technology (70); Interpretation (70) Observer IV (30)
Research			Applied Research & Biometrics (32)	Research Investigative Project
Totals	914	962	1207	1382
TOTAL HOURS Full-time study over four years:	4465 plus research project			

Annex 3:

A sample full (conversion) programme

Category I(B) Essentially, conversion programmes are dependent upon assessment of the medical training of the student cohort. They are then designed so as to complete satisfactorily all requirements of a full chiropractic programme.

DIVISION	FIRST YEAR (HOURS)	SECOND YEAR (HOURS)	THIRD YEAR (HOURS)
Biological Sciences	Spinal Anatomy (45) Laboratory Diagnosis (30) Pathology (60) Physiology (45)	Pathology (120)	Clinical Nutrition (45)
Clinical Sciences	Radiology (90) Neuromusculoskeletal Diagnosis (30)	Radiology (90) Neurology (45) Physical Diagnosis (30) Neuromusculoskeletal Diagnosis (30)	Paediatrics (45) Geriatrics (30)
Chiropractic Sciences	Chiropractic History (30) Principles & Philosophy of Chiropractic (20) Spinal Biomechanics (60) Static & Dynamic Spinal Palpation (30) Chiropractic Skills (180)	Principles & Philosophy of Chiropractic (20) Static & Dynamic Spinal Palpation (60) Chiropractic Skills (120)	Principles & Philosophy of Chiropractic (20) Chiropractic Skills (60)
Clinical Practicum	Supervised Clinical Practicum (120)	Supervised Clinical Practicum (225)	Supervised Clinical Practicum (500)
Research			Research (25)
TOTALS	740	740	725
TOTAL HOURS Full-time or part-time study over three years	2205		

Annex 4:

A sample limited (conversion) programme

Category II(A) Suitable for persons with a solid medical education to attain minimal registerable requirements to practise safely and relatively effectively as chiropractors.

DIVISION	FIRST YEAR (HOURS)	SECOND YEAR (HOURS)	THIRD YEAR (HOURS)
Biological Sciences	Spinal Anatomy (45) Pathology (60) Physiology (45)	Pathology (60)	Clinical Nutrition (30)
Clinical Sciences	Diagnostic Imaging (45) Neurology (45) Neuromusculoskeletal Diagnosis (30)	Diagnostic Imaging (45) Neurology (45) Physical Diagnosis (30) Neuromusculoskeletal Diagnosis (30)	Paediatrics (45) Geriatrics (30)
Chiropractic Sciences	Chiropractic History (30) Principles & Philosophy of Chiropractic (20) Spinal Biomechanics (60) Static & Dynamic Spinal Palpation (30) Chiropractic Skills (90)	Principles & Philosophy of Chiropractic (20) Static & Dynamic Spinal Palpation (60) Chiropractic Skills (90)	Principles & Philosophy of Chiropractic (20) Chiropractic Skills (60)
Clinical Practicum	Supervised Clinical Practicum (100)	Supervised Clinical Practicum (220)	Supervised Clinical Practicum (420)
TOTAL	600	600	605
TOTAL HOURS Part-time study over three years	1805		

Annex 5:

A sample limited (standardization) programme

Category II(B) Addresses deficiencies identified through assessment of a student's existing knowledge and skills and enables graduates to attain safe and minimal registerable standards as chiropractors.

DIVISION	FIRST YEAR	DL	IR	CP	SECOND YEAR	DL	IR	CP	THIRD YEAR	DL	IR	CP
Biological Sciences	Anatomy	56	24		Laboratory Diagnosis	42	8					
	Biochemistry	56	4									
	Physiology	56	4									
	Pathology	70	12									
	Public Health	56	4									
	Clinical Nutrition	56	4									
Clinical Sciences					Physical Diagnosis	56	14		Head/Cervical Spine Care	70	20	
					Orthopaedics/Neurology	56	14		Thoracic/Lumbar Spine & Pelvis Care	70	20	
					Radiology	56	16		Hip/Knee/Ankle/Foot Care	70	20	
					Clinical Diagnosis	56	9		Shoulder/Elbow/Wrist/Hand Care	70	20	
									Special Population Care	56	24	
Chiropractic Sciences	Biomechanics	56	16		Patient Management Procedures	42	18		Record Keeping, Documentation & Quality Assurance	42	16	
	Principles of Chiropractic	42	3									
Clinical Practicum				400				400				400
Research	Computer Skills Workshop			6	Research Methodology	50						
					First Aid/Emergency Care	28	24					
Totals		448	71	406		486	103	400		378	100	400
TOTAL HOURS Part-time study over three years	2790		DL = Distance Learning (Self Directed Learning); IR = In Residence (Lectures & Workshops); CP = Clinical Practicum (Supervised)									

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Guidelines on Basic Training and Safety in Acupuncture

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Contents

Acknowledgements	i
Introduction.....	1
Basic training in acupuncture	1
Safety in acupuncture.....	2
Section I: Basic training in acupuncture.....	3
1. Purpose of the guidelines	4
2. Use of acupuncture in national health systems	4
2.1 Administrative and academic considerations.....	4
2.2 Examinations and licensing.....	4
2.3 Supervision, monitoring and evaluation.....	5
2.4 Further education and career possibilities	5
3. Levels of training.....	5
4. Training programmes.....	6
5. Training of acupuncture practitioners	7
5.1 Acupuncture practitioners.....	7
5.2 Entrance requirements.....	7
5.3 Duration of training.....	7
5.4 Objective	7
5.5 Core syllabus in acupuncture.....	7
5.6 Core syllabus in modern Western medicine.....	9
5.7 Other related fields of health care	9
5.8 Examination.....	9
6. Full training in acupuncture for qualified physicians	10
7. Limited training in acupuncture for qualified physicians.....	10
7.1 Basic training.....	10
7.2 Special courses.....	11
7.3 Advanced training.....	11
8. Limited training in acupuncture for primary health care personnel.....	12
9. Selected acupuncture points for basic training	12
10. Selected points for basic training in acupuncture	13

Section II: Safety in acupuncture	17
1. Prevention of infection.....	17
1.1 Clean working environment.....	18
1.2 Clean hands	18
1.3 Preparation of the needling sites.....	18
1.4 Sterilization and storage of needles and equipment.....	18
1.5 Aseptic technique.....	19
2. Contraindications	19
2.1 Pregnancy	20
2.2 Medical emergencies and surgical conditions.....	20
2.3 Malignant tumours.....	20
2.4 Bleeding disorders.....	20
3. Accidents and untoward reactions	20
3.1 Needle quality.....	20
3.2 Position of patient.....	21
3.3 Fainting.....	21
3.4 Convulsions.....	21
3.5 Pain	22
3.6 Stuck needle.....	22
3.7 Broken needle	23
3.8 Local infection.....	23
3.9 Burning during moxibustion.....	23
4. Electrical stimulation and laser therapy.....	24
5. Injury to important organs	24
5.1 Areas not to be punctured.....	24
5.2 Precautions to be taken.....	25
6. Patient records	26
Appendix.....	27
1. Sterilization of acupuncture needles and equipment.....	27
2. Methods of sterilization.....	27
3. Disinfection.....	28
4. Maintenance.....	28
Annex I: List of participants	30

Introduction

Acupuncture is an important element of traditional Chinese medicine. It began to be used more than 2500 years ago, and its theory was already well developed at a very early time, as is shown in many of the Chinese classics. It was introduced to neighbouring countries in Asia in the 6th Century, being readily accepted, and by the early 16th Century it had reached Europe. Over the past two decades acupuncture has spread worldwide, which has encouraged the further development of this therapy, particularly through studies from modern medical perspectives and research methodologies.

Many elements of traditional medicine are beneficial, and WHO encourages and supports countries to identify safe and effective remedies and practices for use in public and private health services. It has paid particular attention to supporting research in and the proper application of acupuncture and, in 1991, the Forty-fourth World Health Assembly urged Member States to introduce measures for its regulation and control (Resolution WHA44.34).

With the increasing use of acupuncture, the need for a common language to facilitate communication in teaching, research, clinical practice and exchange of information had become pressing and, in 1989, WHO convened a Scientific Group which approved a Standard International Acupuncture Nomenclature which is being widely disseminated and applied.

The Scientific Group also recommended that the Organization develop a series of statements and guidelines on acupuncture relating to basic training, safety in clinical practice, indications and contraindications, and clinical research. Guidelines for clinical research on acupuncture were issued by the WHO Regional Office for the Western Pacific in 1995.

The present document consists of guidelines on basic training and safety in acupuncture. More than 50 international experts shared their knowledge and experience in their preparation.

Basic training in acupuncture

The guidelines cover basic requirements for training non-physician acupuncturists and physicians wishing to use acupuncture in their clinical work, and include a core syllabus. They are intended to assist national health authorities in setting standards and establishing official examinations, and also medical schools and institutions wishing to arrange training programmes.

Safety in acupuncture

These guidelines are meant for hospitals, clinics and practitioners, and provide standards for safety in the clinical practice of acupuncture. Their purpose is to minimize the risk of infection and accidents, to alert acupuncturists to contraindications, and to advise on the management of complications occurring during treatment.

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Section I: Basic training in acupuncture

The increasing popularity in recent years of acupuncture as a form of therapy and the interest of some countries in introducing it into primary health care mean that national health authorities must ensure safety and competence in its use.

In countries with a formal system of education in traditional medicine, and where acupuncture is firmly established as a normal component of health care, training may extend over several years at college level, and suitable mechanisms for supervision of its practitioners have been created.

However, for other countries, where "modern Western medicine" forms the only basis of the national health system, the position is different and there may be no educational, professional or legislative framework to govern the practice of acupuncture.

Making use of acupuncture in modern medical care means taking it out of its traditional context and applying it as a therapeutic technique for a limited number of conditions for which it has been shown to be effective, without having to reconcile the underlying theories of modern and traditional medicine.

In this type of situation, lengthy periods of instruction in traditional medicine as a background to acupuncture are neither feasible nor necessary, and shorter training must suffice.

Furthermore, in many countries, acupuncture is not yet officially recognized and regulations and registration requirements, where they exist, vary considerably. In some, only qualified physicians may practice acupuncture, while in others, practitioners trained in traditional medicine may also do so.

It seems useful, therefore, to provide guidelines for relatively short periods of theoretical and practical training in acupuncture which, with well designed curricula and skilled instructors, would be sufficient to ensure the safety and competence of those so trained.

In recent decades, the theoretical and practical aspects of acupuncture have been developed in various countries, particularly in those where modern Western medical perspectives and research methodologies have been applied to studies of this traditional therapy. The achievements of these studies should be included in the training. However, since a new theoretical system has not yet been established, traditional Chinese medical theory is still taken as the basis of the Core Syllabus.

1. Purpose of the guidelines

These guidelines will, it is hoped, assist national health authorities in countries where modern Western medicine forms the basis of health care to establish regulations concerning:

- general requirements for basic training in and the practice of acupuncture;
- the knowledge and experience of modern Western medicine required of acupuncture practitioners employed as such in the national health care system; and the knowledge and experience of acupuncture required of physicians and other health staff wishing to include acupuncture in their professional work in modern Western medicine.

2. Use of acupuncture in national health systems

A decision by the Ministry of Health to incorporate acupuncture in primary health care (or at any other level of government health services) in a system based on modern Western medicine raises a number of important issues which would need to be taken into account.

2.1 Administrative and academic considerations

The training of health personnel in acupuncture involves certain administrative and academic considerations, for example:

- Which types of personnel should be trained?
- What would be their functions and responsibilities?
- What would be the content of training, in each case?
- Where would such training be given and by whom?
- Are suitably qualified instructors available or would they also have to be trained?
- What would be the mechanisms for official recognition of training courses, instructors and institutions?

2.2 Examinations and licensing

A system of examination and licensing would be needed to ensure the competence of those trained, and to prevent unauthorized practice of acupuncture.

This would bring under control the situation, current in certain industrialized and developing countries, where commercial exploitation of acupuncture training and practice is not uncommon, with all the harmful consequences that may ensue.

2.3 Supervision, monitoring and evaluation

The introduction of one or more new categories of personnel in the health system would probably make it necessary to provide for:

- a period of supervised practice after training;
- monitoring of performance of the trainees individually and as a group; and
- evaluation of the benefits (or otherwise) of including acupuncture in primary health care (and at other levels) where it was not previously available, and of its cost-effectiveness compared with other forms of treatment for common conditions.

2.4 Further education and career possibilities

Possibilities to be envisaged, and perhaps encouraged, are that some acupuncture practitioners may wish to increase their knowledge of modern Western medicine, while other health personnel who have not received the basic training may wish to acquire a knowledge of acupuncture and later apply it. Ultimately, a blending of the two disciplines must, to some extent, take place.

3. Levels of training

The guidelines address four levels of training in acupuncture, namely:

- full training for those with little or no prior medical education or experience, who wish to qualify as recognized acupuncture practitioners licensed to practise independently, subject to the limitations imposed by the Ministry of Health;
- full training of qualified physicians (modern Western medicine) in acupuncture;
- training of qualified physicians (and certain other medical graduates) from schools of modern Western medicine, who wish to include acupuncture as a technique in their clinical work; and
- limited training of other health personnel (modern Western medicine) working in the primary health care system of their country.

4. Training programmes

The basic training of the four groups is different. For traditional acupuncture practitioners, a complete course extending over two years is recommended. For physicians and medically trained non-physicians, training would be adapted to their specific requirements and confined to the clinical applications of acupuncture. An indication of the period of training to be desired in each case is given in Table 1 below.

Table 1
Basic training in acupuncture

Category of Personnel	Level of Training	Acupuncture (ACU)			Modern Western Medicine (MED)	Official Examination	Certificate
		Core Syllabus					
		Theory	Clinical Supervised Practice				
Acupuncture practitioners (non-medical)	Full course of training	1000 hours	500 hours	500 hours	500 hours	ACU + MED ¹	ACU
Qualified physicians	Full course of training	500 hours	500 hours	500 hours		ACU	
Qualified physicians	Limited training in ACU as a technique for their clinical work	Not less than 200 hours				ACU	
Other health personnel	Limited training in ACU for use in primary health care	Varies according to application envisaged				ACU	

¹ State examination in acupuncture and modern Western medicine (at appropriate level).

5. Training of acupuncture practitioners

5.1 Acupuncture practitioners

This training programme is designed for personnel of suitable educational level, but with little or no formal training or experience in modern Western health care.

5.2 Entrance requirements

Completed secondary schooling, university entrance or equivalent, and appropriate training in the basic biosciences.

5.3 Duration of training

Two years full time (2500 hours), or the part-time equivalent, with not less than 1000 hours of practical and clinical work.

5.4 Objective

The aim of training at this level is to prepare acupuncture practitioners who would subsequently be employed by national health services. Training would equip them to give safe and effective acupuncture treatment to selected patients in hospitals, or as part of the primary health care team at health centres or community level. They would initially work under the general supervision of the medical officer in charge.

5.5 Core syllabus in acupuncture

1. **Brief history of acupuncture**
2. **Basic theory**
 - Philosophy of traditional Chinese medicine, including but not limited to concepts of *yin-yang* and the five phases.
 - Functions of *qi*, blood, mind, essence and body fluids, as well as their relationship to one another.
 - Physiological and pathological manifestations of *zang-fu* (visceral organs) and their relationship to one another.
 - Meridians and collaterals, their distribution and functions.

- Causes and mechanisms of illness.
3. **Knowledge of acupuncture points**
- Location of the 361 classical points on the 14 meridians and the 48 extraordinary points. Location and anatomical description of the Commonly Used Points selected for Basic Training.
 - Alphanumeric codes and names, classifications of points, direction and depth of insertion of needles, actions and indications of the commonly used points listed in the Appendix.
4. **Diagnosis**
- Methods of diagnosis, history taking, inspection and tongue diagnosis, palpation and pulse taking, auscultation and olfaction.
 - Differentiation of syndromes according to the eight principles, the theory of visceral manifestations (*zang-fu*), the theory of *qi* and blood, and the theory of meridians and collateral vessels.
5. **Treatment (as permitted by national laws and health service regulations)**

Principles of treatment

- Practical application of theory and diagnosis to treatment in each individual case.
- Appropriateness of acupuncture treatment for the patient.
- Planning of the acupuncture treatment to be given.
- Appropriate selection of points and methods of needle manipulation.
- Limitations of acupuncture, and need for referral to other health professionals or specialists.

Guidelines on safety in acupuncture

Treatment techniques

- Needling: sterile and safe needling technique, selection of needles, proper insertion, depth, duration, manipulation (various measures of reinforcement, reduction, uniform reinforcement-reduction) and withdrawal, and contraindications of needling.
- Microsystems acupuncture used in the country concerned: theory, location of points and applications.
- Electrical stimulation and laser therapy: theory and applications.
- Moxibustion: direct and indirect methods, appropriate use and contraindications.
- Cupping methods: appropriate use and contraindications.

Treatment of the diseases, illnesses, and conditions for which patients commonly seek acupuncture treatment

Acupuncture treatment of emergencies

Prevention in traditional medicine

5.6 Core syllabus in modern Western medicine

1. Approach to training

By the end of the course the student should have:

- a sound understanding of the essentials of anatomy (including the anatomical location of acupuncture points), physiology, and the basic mechanisms of disease;
- an understanding of the principles of hygiene, the common forms of disease and ill-health in the community, and their causative factors;
- proficiency in making a simple but competent examination of a patient, and in arriving at a tentative diagnosis and a reasonable assessment of the gravity of symptoms and signs;
- the ability to decide whether a patient may safely and suitably be treated by acupuncture, or should be referred to a health professional or facility; and
- training in first aid, cardiopulmonary resuscitation, and the action to take in emergencies.

2. Scope and depth of training

These must be defined by the national health authorities, according to the duties and responsibilities the acupuncture practitioners will have in the national health system; including whether these will also involve the use of modern Western medicine (alone or in combination with acupuncture), and the degree of supervision under which the practitioner will work.

5.7 Other related fields of health care

As future personnel in the national health system, student non-physician acupuncturists should also have adequate knowledge of the organization of health services in the country, relevant regulations and procedures, the disposition of health staff and facilities, ethical considerations, and insurance requirements.

5.8 Examination

On completion of the full period of training, the student's theoretical knowledge of and proficiency in acupuncture, and knowledge of modern Western medicine (at the appropriate level), should be evaluated by an official examination,

recognized by national health authorities as evidence of the suitability of the trainee to be licensed to practise.

6. Full training in acupuncture for qualified physicians

This training programme is designed for qualified physicians (modern Western medicine) who wish to practise acupuncture independently, treating the various conditions for which patients are commonly treated by acupuncture practitioners.

Qualified physicians who already have adequate knowledge and skills in modern Western medicine, would only need to follow the Core Syllabus for acupuncture. The theoretical course could be shortened, as qualified physicians can learn traditional medicine more easily than those with no prior medical education. The course should comprise at least 1500 hours of formal training, including 1000 hours of practical and clinical work.

On completion of the course and after passing an official examination, participants should be entitled to practise acupuncture in various fields of medicine where it is indicated.

7. Limited training in acupuncture for qualified physicians

7.1 Basic training

Shorter training courses would be suitable for qualified physicians (and certain other graduates) who wish to become competent in acupuncture as a form of therapy in modern Western clinical practice (or as a subject for scientific research).

For them, a brief introduction to traditional acupuncture (derived from the Core Syllabus) would probably suffice, and the training would then be largely orientated to the use of acupuncture in modern Western medicine.

The course should comprise at least 200 hours of formal training, and should include the following components:

- 1. Introduction to traditional Chinese acupuncture**
- 2. Acupuncture points**

- Location of the 361 classical points on the 14 meridians and the 48 extraordinary points.
 - Alphanumeric codes and names, classifications of points, direction and depth of insertion of needles, actions and indications of the Commonly Used Points selected for Basic Training.
- 3. Applications of acupuncture in modern Western medicine**
- Principal clinical conditions in which acupuncture has been shown to be beneficial.
 - Selection of patients and evaluation of progress/benefit.
 - Planning of treatment, selection of points and methods of needle manipulation, and use of medication or other forms of therapy concurrently with acupuncture.
- 4. Guidelines on safety in acupuncture**
- 5. Treatment techniques**
- General principles.
 - Specific clinical conditions.

On completion of the course and after passing an official examination, participants should be able to integrate acupuncture into their clinical work or speciality.

7.2 Special courses

Some physicians or dental surgeons might wish to acquire proficiency in certain specific applications of acupuncture (for example, pain relief, or dental or obstetric analgesia) and for them flexibility would be needed in designing special courses adapted to their particular areas of interest.

7.3 Advanced training

Physicians or other health personnel who have satisfactorily completed a "short" course of basic training might wish to pursue their training at an advanced level, in which case suitable courses would have to be "tailor-made" to meet their needs.

8. Limited training in acupuncture for primary health care personnel

The introduction of "acupuncture" into primary health care at community level would require the training of a considerable number of personnel over a short period, if it is to have a demonstrable effect. This would probably strain the teaching and supervision resources of the country concerned.

It would seem wiser, in such cases, to train such personnel in acupressure (*zhi-ya*) rather than in acupuncture itself. Training in acupressure would make no great demands, could be incorporated into the general training of primary health care personnel, and would carry no risk to the patient. The use of acupressure in primary health care would have to be evaluated after a suitable trial period. Some personnel who show particular aptitude might be chosen for basic training in acupuncture, a training programme being arranged according to the applications envisaged.

9. Selected acupuncture points for basic training

Participants at the WHO Consultation on Acupuncture at Cervia, Italy in 1996 drew up a list of Commonly Used Points suitable for inclusion in basic training courses. These were selected from the document *A Proposed Standard International Acupuncture Nomenclature: Report of a WHO Scientific Group* (WHO, Geneva, 1991).

As may be seen from the table below, the selection includes 187 of the 361 classical points, and 14 of the 48 extra points. Thus, the basic training courses for the categories of personnel described lay emphasis on the use of only 201 of a total of 409 points.

The guidelines on safety, which follow, mention certain points as being potentially dangerous and requiring special skill and experience in their use. Some of these are included in the selection of Commonly Used Points, and attention is drawn to this fact.

10. Selected points for basic training in acupuncture

Meridians, vessels and extra points	Standard international ² acupuncture nomenclature	Selected points ³ for basic training
Lung	11	6
Large intestine	20	12
Stomach	45	25
Spleen	21	11
Heart	9	5
Small intestine	19	13
Bladder	67	34
Kidney	27	8
Pericardium	9	7
Triple energizer	23	12
Gallbladder	44	20
Liver	14	8
Governor vessel	28	13
Conception vessel	24	13
Sub-total	361	187
Extra points	48	14
Total points	409	201

² *Standard International Acupuncture Nomenclature, Report of a WHO Scientific Group (WHO, Geneva, 1991).*

³ Selected by participants at the WHO Consultation on Acupuncture, Cervia, Italy, 1996.

SELECTED POINTS FOR BASIC TRAINING IN ACUPUNCTURE ⁴

Selected from:
A Proposed Standard International Acupuncture Nomenclature
Report of a WHO Scientific Group
 (WHO, Geneva, 1991).

1. Lung meridian (LU)

LU 1 zhongfu	LU 7 kongzui	LU 10 yuji
LU 5 chize	LU 9 taiyuan	LU 11 shaoshang

2. Large intestine meridian (LI)

LI 1 shangyang	LI 7 wenliu	LI 14 binao
LI 3 sanjian	LI 6 pianli	LI 15 jianyu
LI 4 hegu	LI 10 shousanli	LI 18 futu
LI 5 yangxi	LI 11 quchi	LI 20 yingxiang

3. Stomach meridian (ST)

ST 1 chengqi	ST 21 liangmen	ST 36 zusanli
ST 2 sibai	ST 25 tianshu	ST 37 shangjuxu
ST 3 juliao	ST 27 daju	ST 38 tiaokou
ST 4 dicang	ST 29 guilai	ST 40 fenglong
ST 5 daying	ST 31 biguan	ST 41 jiexie
ST 6 jiache	ST 32 futu	ST 42 chongyang
ST 7 xiaguan	ST 34 liangqiu	ST 44 neiting
ST 8 touwei	ST 35 dubi	ST 45 lidui
ST 18 rugen		

4. Spleen meridian (SP)

SP 1 yinbai	SP 5 shangqiu	SP 10 xuehai
SP 2 dadu	SP 6 sanyinjiao	SP 11 jimen
SP 3 taibai	SP 8 diji	SP 15 daheng
SP 4 gongsun	SP 9 yinlingquan	

5. Heart meridian (HT)

HT 3 shaohai	HT 7 shenmen	HT 9 shaochong
HT 5 tongli	HT 8 shaofu	

6. Small intestine meridian (SI)

SI 1 shaoze	SI 9 jianzhen	SI 17 tianrong
SI 3 houxi	SI 10 naoshu	SI 18 quanliao
SI 4 wangu	SI 11 tianzong	SI 19 tinggong

⁴ NOTE: Alphanumeric codes which are in bold and underlined are mentioned in the Guidelines on Safety as being potentially dangerous and requiring special skill and experience in their use: LU 9, ST 1, SP 11, BL 1, GV 15, GV 16, CV 22.

- SI 5 yanggu SI 12 bingfeng
SI 6 yanglao SI 14 jianwaishu
7. **Bladder meridian (BL)**
- | | | |
|---------------|--------------------|-----------------|
| BL 1 jingming | BL 21 weishu | BL 52 zhishi |
| BL 2 cuanzhu | BL 22 sanjiaoshu | BL 54 zhibian |
| BL 7 tongtian | BL 23 shenshu | BL 57 chengshan |
| BL 10 tianzhu | BL 25 dachangshu | BL 58 feiyang |
| BL 11 dazhu | BL 28 pangguangshu | BL 60 kunlun |
| BL 12 fengmen | BL 31 shangliao | BL 62 shenmai |
| BL 13 feishu | BL 32 ciliao | BL 64 jinggu |
| BL 15 xinshu | BL 33 zhongliao | BL 65 shugu |
| BL 17 geshu | BL 34 xialiao | BL 66 zutonggu |
| BL 18 ganshu | BL 36 chengfu | BL 67 zhiyin |
| BL 19 danshu | BL 40 weiyang | |
| BL 20 pishu | BL 43 gaohuang | |
8. **Kidney meridian (KI)**
- | | | |
|---------------|---------------|-------------|
| KI 1 yongquan | KI 5 shuiquan | KI 9 zhubin |
| KI 2 rangu | KI 6 zhaohai | LI 10 yingu |
| KI 3 taixi | KI 7 fuliu | |
9. **Pericardium meridian (PC)**
- | | | |
|--------------|--------------|-----------------|
| PC 3 quze | PC 6 neiguan | PC 9 zhongchong |
| PC 4 ximen | PC 7 daling | |
| PC 5 jianshi | PC 8 laogong | |
10. **Triple energizer meridian (TE)**
- | | | |
|----------------|--------------|-----------------|
| TE 1 guanchong | TE 5 waiguan | TE 14 jianliao |
| TE 2 yemen | TE 6 zhigou | TE 17 yifeng |
| TE 3 zhongzhu | TE 9 sidu | TE 21 ermen |
| TE 4 yangchi | TE 13 naohui | TE 23 sizhukong |
11. **Gall bladder meridian (GB)**
- | | | |
|-----------------|--------------------|-----------------|
| GB 1 tongziliao | GB 24 riyue | GB 37 guangming |
| GB 2 tinghui | GB 25 jingmen | GB 39 xuanzhong |
| GB 8 shuaigu | GB 29 juliao | GB 40 qiuxu |
| GB 12 wangu | GB 30 huantiao | GB 41 zulinqi |
| GB 14 yangbai | GB 31 fengshi | GB 43 xiaxi |
| GB 20 fengchi | GB 33 xiyangguan | GB 44 zuqiaoyin |
| GB 21 jianjing | GB 34 yanglingquan | |
12. **Liver meridian (LR)**
- | | | |
|---------------|----------------|----------------|
| LR 1 dadun | LR 4 zhongfeng | LR 13 zhangmen |
| LR 2 xingjian | LR 5 ligou | LR 14 qimen |
| LR 3 taichong | LR 8 ququan | |

13. Governor vessel (GV)

GV 1 changqiang	GV 13 taodao	GV 20 baihui
GV 3 yaoyangguan	GV 14 dazhui	GV 23 shangxing
GV 4 mingmen	<u>GV 15</u> yamen	GV 25 suliao
GV 9 zhiyang	<u>GV 16</u> fengfu	GV 26 shuigou
GV 12 shenzhu		

14. Conception vessel (CV)

CV 3 zhongji	CV 10 xiawan	CV 17 danzhong
CV 4 guanyuan	CV 12 zhongwan	<u>CV 22</u> tiantu
CV 6 qihai	CV 13 shangwan	CV 23 lianquan
CV 8 shenque	CV 14 juque	CV 24 chengjiang
CV 9 shuifen		

15. Extra points *

EX-HN 1 sishencong	EX-HN 4 yuyao	EX-B 1 dingchuan
EX-HN 3 yintang	EX-HN 5 taiyang	EX-B 2 jiaji
EX-UE 7 yaotongdian	EX-LE 4 neixiyan	
EX-UE 9 baxie	EX-LE 6 dannang	
EX-UE 10 sifeng	EX-LE 7 lanwei	
EX-UE 11 shixuan	EX-LE 10 bafeng	

* HN Head and neck; B Back; UE Upper extremities; LE Lower extremities.

Section II: Safety in acupuncture

In competent hands, acupuncture is generally a safe procedure with few contraindications or complications. Its most commonly used form involves needle penetration of the skin and may be compared to a subcutaneous or intramuscular injection. Nevertheless, there is always a potential risk, however slight, of transmitting infection from one patient to another (e.g. HIV or hepatitis) or of introducing pathogenic organisms. Safety in acupuncture therefore requires constant vigilance in maintaining high standards of cleanliness, sterilization and aseptic technique.

There are, in addition, other risks which may not be foreseen or prevented but for which the acupuncturist must be prepared. These include: broken needles, untoward reactions, pain or discomfort, inadvertent injury to important organs and, of course, certain risks associated with the other forms of therapy⁵ classified under the heading of "acupuncture".

Finally, there are the risks due to inadequate training of the acupuncturist. These include inappropriate selection of patients, errors of technique, and failure to recognize contraindications and complications, or to deal with emergencies when they arise.

1. Prevention of infection

As with any subcutaneous or intramuscular injection, avoidance of infection in acupuncture requires:

- a clean working environment;
- clean hands of the practitioner;
- preparation of the needling sites;
- sterile needles and equipment, and their proper storage;
- aseptic technique; and
- careful management and disposal of used needles and swabs.

⁵ Acupuncture treatment is not limited to needling, but may also include: acupressure, electro-acupuncture, laser acupuncture, moxibustion, cupping, scraping and magnetotherapy.

1.1 Clean working environment

The treatment room should be free from dirt and dust, and should have a special working area, such as a table covered with a sterile towel, on which sterile equipment should be placed. This equipment (including trays of needles, cotton wool balls and sticks, and 70% alcohol) should be covered with a sterile towel until needed for use. Adequate light and ventilation should be provided throughout the treatment rooms.

1.2 Clean hands

Practitioners should always wash their hands before treating a patient. Washing the hands again immediately before the acupuncture procedure is particularly important in preventing infection, and should include thorough lathering with soap, scrubbing the hands and fingernails, rinsing under running water for 15 seconds, and careful drying on a clean paper towel.

Many acupuncturists palpate the acupuncture point after the needling site has been prepared. In such cases, their fingertips should again be cleaned with an alcohol swab. The use of sterile surgical gloves, or individual finger stalls, is recommended for the protection of the patient and the practitioner, especially if the latter has cuts or abrasions. Those with infected lesions on the hands should not practise until they are healed.

1.3 Preparation of the needling sites

The needling sites should be clean, free from cuts, wounds or infections. The point to be needled should be swabbed with 70% ethyl or isopropyl alcohol, from the centre to the surrounding area using a rotary scrubbing motion, and the alcohol allowed to dry.

1.4 Sterilization and storage of needles and equipment

Sterilization is required for all needles (filiform, plum-blossom, seven-star, subcutaneous, round-head subcutaneous), cups and other equipment used (storage trays, forceps, guide tubes for needles, cotton wool balls and sticks, etc.).

Disposable sterile acupuncture needles and guide tubes are strongly recommended in all instances. However, the use of disposable needles should not slacken the practitioner's vigilance in adopting aseptic techniques in other aspects of clinical practice. All disposable needles should be discarded immediately after use and placed in a special container.

Each sterile filiform needle should be used for puncturing once, and once only. Plum-blossom or seven-star needles may be used repeatedly on one and the same patient, but must be sterilized before being used for another patient, or else disposable plum-blossom heads should be used.

Sterilization procedures should conform to those described in the Appendix. The therapist is responsible for ensuring that these standards are maintained.

Immediately after use, reusable needles and other contaminated equipment should be immersed in an effective chemical disinfectant, then soaked in water, with or without detergent and, after careful cleaning, thoroughly rinsed in water before being packaged for resterilization.

The sterilized package should be stored in a safe and clean area, well ventilated and free from excessive humidity, to preclude any possibility of condensation and mould growth. The maximum safe storage time varies with the type of packaging. Needles should be placed in a test tube which should then be plugged with cotton wool, and clearly labelled with an expiry date not more than seven days after the date of sterilization. Improper storage conditions may, however, cause equipment to lose sterility long before the expiry date. The integrity of the package should be inspected before use. Sterile needles stored in needle trays should be resterilized at the end of the day because the trays may become contaminated during use in treatment.

1.5 Aseptic technique

The needle shaft must be maintained in a sterile state prior to insertion. Needles should be manipulated in such a way that the practitioner's fingers do not touch the shaft. If there is difficulty in inserting a long needle, such as that used in puncturing GB 30 huantiao or BL 54 zhibian by just grasping its handle, the shaft should be held in place with a sterile cotton wool ball or swab. The use of disposable sterile surgical gloves or finger stalls makes it easy to manipulate needles without contamination.

On withdrawing a needle, a sterile cotton wool ball should be used to press the skin at the insertion site, thus protecting the patient's broken skin surface from contact with potential pathogens, and the practitioner from exposure to the used needle shaft and the patient's body fluid. All compresses or cotton wool balls contaminated by blood or body fluids must be discarded in a special container for infectious waste.

2. Contraindications

In view of the "regulatory action" of acupuncture, it is difficult to stipulate absolute contraindications for this form of therapy. However, for reasons of safety, it should be avoided in the following conditions.

2.1 Pregnancy

Acupuncture may induce labour and, therefore, should not be performed in pregnancy, unless needed for other therapeutic purposes and then only with great caution.

Just the act of needling with a certain mode of manipulation at certain acupuncture points may cause strong uterine contractions and induce abortion. However, this may have a use in pregnancy for the purpose of inducing labour or shortening its duration.

Traditionally, acupuncture, and moxibustion are contraindicated for puncture points on the lower abdomen and lumbosacral region during the first trimester. After the third month, points on the upper abdomen and lumbosacral region, and points which cause strong sensations should be avoided, together with ear acupuncture points that may also induce labour.

2.2 Medical emergencies and surgical conditions

Acupuncture is contraindicated in emergencies. In such cases, first aid should be applied and transport to a medical emergency centre arranged.

Acupuncture should not be used to replace a necessary surgical intervention.

2.3 Malignant tumours

Acupuncture should not be used for the treatment of malignant tumours. In particular, needling at the tumour site should be prohibited. However, acupuncture may be used as a complementary measure, in combination with other treatments, for the relief of pain or other symptoms, to alleviate side-effects of chemotherapy and radiotherapy, and thus to improve the quality of life.

2.4 Bleeding disorders

Needling should be avoided in patients with bleeding and clotting disorders, or who are on anticoagulant therapy or taking drugs with an anticoagulant effect.

3. Accidents and untoward reactions

3.1 Needle quality

Stainless steel is the material of choice for acupuncture needles. Each should be carefully checked before use. If it is bent, the shaft eroded, or the tip hooked or blunt, the needle is defective and should be discarded.

It is recommended that the quality of manufacture of acupuncture needles be controlled by the national health authority.

3.2 Position of patient

The patient should assume a comfortable posture before needling and be requested to remain still and not to change position abruptly during treatment.

3.3 Fainting

During acupuncture treatment, the patient may feel faint. The needling procedure and the sensations it may cause should therefore be carefully explained before starting. For those about to receive acupuncture for the first time, treatment in a lying position with gentle manipulation is preferred. The complexion should be closely watched and the pulse frequently checked to detect any untoward reactions as early as possible. Particular care should be taken when needling points that may cause hypotension, e.g. LR 3 taichong.

Symptoms of impending faintness include feeling unwell, a sensation of giddiness, movement or swaying of surrounding objects, and weakness. An oppressive feeling in the chest, palpitations, nausea and sometimes vomiting may ensue. The complexion usually turns pale and the pulse is weak. In severe cases, there may be coldness of the extremities, cold sweats, a fall in blood pressure, and loss of consciousness. Such reactions are often due to nervousness, hunger, fatigue, extreme weakness of the patient, an unsuitable position, or too forceful manipulation.

If warning symptoms appear, remove the needles immediately and make the patient lie flat with the head down and the legs raised, as the symptoms are probably due to a transient, insufficient blood supply to the brain. Offer warm sweet drinks. The symptoms usually disappear after a short rest. In severe cases, first aid should be given and, when the patient is medically stable, the most appropriate of the following treatments may be applied:

- press GV 26 shuigou with the fingernail or puncture GV 26 shuigou, PC 9 zhongchong, GV 25 suliao, PC 6 neiguan and ST 36 zusanli; or
- apply moxibustion to GV 20 baihui, CV 6 qihai and CV 4 guanyuan.

The patient will usually respond rapidly to these measures, but if the symptoms persist, emergency medical assistance will be necessary.

3.4 Convulsions

All patients about to receive acupuncture should be asked if they have a history of convulsions. Patients who do have such a history should be carefully observed during treatment. If convulsions do occur, the practitioner should remove all

needles and render first aid. If the condition does not stabilize rapidly or if convulsions continue, the patient should be transferred to a medical emergency centre.

3.5 Pain

During needle insertion

Pain during insertion is usually due to clumsy technique, or to blunt, hooked or thick needles. It may also occur in highly sensitive patients. In most patients, skilful and rapid penetration of the needle through the skin is painless. The correct technique and optimum degree of force to use must be learned through practice. A few devices may facilitate smooth and fast penetration, such as the use of needle guide tubes (which hold the needle steady over the point while it is tapped into place), and the "flicking-in" technique (a method of inserting the needle by flicking the upper end of its handle with the middle or index finger of one hand while the handle of the needle is loosely held by the index and middle fingers of the other hand, with the tip of the needle lightly touching the acupuncture point). The "acupuncture sensation" of soreness, tingling and heaviness indicating the arrival of *qi* (*deqi*) at the point should be distinguished from painful reactions.

After insertion

Pain occurring when the needle is inserted deep into the tissues may be due to hitting pain receptor nerve fibres, in which case, the needle should be lifted until it is just beneath skin and carefully inserted again in another direction.

Pain occurring when the needle is rotated with too wide an amplitude, or is lifted and thrust, is often due to it becoming entwined with fibrous tissue. To relieve the pain, gently rotate the needle back and forth until the fibre is released.

Pain occurring while the needle is in place is usually caused by it curving when the patient moves, and is relieved by resuming the original position.

After withdrawal

This is usually due to unskilled manipulation or excessive stimulation. For mild cases, press the affected area; for severe cases, moxibustion may be applied in addition to pressure.

3.6 Stuck needle

After insertion, one may find it difficult or impossible to rotate, lift and thrust, or even to withdraw the needle. This is due to muscle spasm, rotation of the needle with too wide an amplitude, rotation in only one direction causing muscle fibres to tangle around the shaft, or to movement by the patient.

The patient should be asked to relax. If the cause is excessive rotation in one direction, the condition will be relieved when the needle is rotated in the

opposite direction. If the stuck needle is due to muscle spasm, it should be left in place for a while, then withdrawn by rotating, or massaging around the point, or another needle inserted nearby to divert the patient's attention. If the stuck needle is caused by the patient having changed position, the original posture should be resumed and the needle withdrawn.

3.7 Broken needle

Breaks may arise from poor quality manufacture, erosion between the shaft and the handle, strong muscle spasm or sudden movement of the patient, incorrect withdrawal of a stuck or bent needle, or prolonged use of galvanic current.

If, during insertion, a needle becomes bent, it should be withdrawn and replaced by another. Too much force should not be used when manipulating needles, particularly during lifting and thrusting. The junction between the handle and the shaft is the part that is apt to break. Therefore, in inserting the needle, one-quarter to one-third of the shaft should always be kept above the skin.

If a needle breaks, the patient should be told to keep calm and not to move, so as to prevent the broken part of the needle from going deeper into the tissues. If a part of the broken needle is still above the skin, remove it with forceps. If it is at the same level as the skin, press around the site gently until the broken end is exposed, and then remove it with forceps. If it is completely under the skin, ask the patient to resume his/her previous position and the end of the needle shaft will often be exposed. If this is unsuccessful, surgical intervention will be needed.

3.8 Local infection

Negligence in using strict aseptic techniques may cause local infection, especially in ear acupuncture therapy. When such infection is found, appropriate measures must be taken immediately, or the patient referred for medical treatment.

Needling should be avoided in treating areas of lymphoedema.

3.9 Burning during moxibustion

Burning of the skin should be prevented in indirect moxibustion. Although scarring moxibustion is performed by means of burning the skin so as to result in non-bacterial suppuration, this technique should only be used with the full knowledge and prior consent of the patient. It is a special therapeutic technique only performed at specific points.

Direct moxibustion should not be applied to points on the face, or at sites where tendons or large blood vessels are located. Moxibustion with non-bacterial suppuration near a joint is also inappropriate because the joint movement may make healing difficult. Special care should be taken in patients with reduced levels of consciousness, sensory disturbance, psychotic disorders, purulent dermatitis, or in areas of impaired circulation.

4. Electrical stimulation and laser therapy

Electrical stimulation is potentially harmful. It is contraindicated: in pregnancy; if the patient has a pace-maker; if there is lack of skin sensation; and in cases of impaired circulation, severe arterial disease, undiagnosed fever or severe skin lesions.

Careful monitoring of the electrical stimulation is recommended to prevent neural injury. Galvanic current should be used for only a very short period of time.

Low energy laser therapy may harm the eyes and both patient and operator should wear protective glasses.

5. Injury to important organs

If administered correctly, acupuncture should not injure any organ. However, if injury does occur, it may be serious.

There are a great many acupuncture points, some which carry little or no risk and others where the potential of serious injury always exists, particularly in unskilled or inexperienced hands.

As training programmes in acupuncture are intended for different levels of personnel, it follows that they should be adapted to the knowledge, abilities and experience of those concerned. At elementary levels, the selection of acupuncture points should be limited. At professional levels, the range can be expanded but, even so, the use of certain points and manipulations should still be restricted to those with great experience.

The following passages present examples of points which carry particular potential risk. As in all forms of treatment, it is important to measure risk against expected benefit.

5.1 Areas not to be punctured

Certain areas should not be punctured, for example: the fontanelle in babies, the external genitalia, nipples, the umbilicus and the eyeball.

5.2 Precautions to be taken

Special care should be taken in needling points in proximity to vital organs or sensitive areas. Because of the characteristics of the needles used, the particular sites for needling, the depth of needle insertion, the manipulation techniques used, and the stimulation given, accidents may occur during treatment. In most instances they can be avoided if adequate precautions are taken. If they do occur, the acupuncturist should know how to manage them effectively and avoid any additional harm. **Accidental injury to an important organ requires urgent medical or surgical help.**

Chest, back and abdomen

Points on the chest, back and abdomen should be needled cautiously, preferably obliquely or horizontally, so as to avoid injury to vital organs. Attention should be paid to the direction and depth of insertion of needles.

Lung and pleura

Injury to the lung and pleura caused by too deep insertion of a needle into points on the chest, back or supraclavicular fossa may cause traumatic pneumothorax. Cough, chest pain and dyspnoea are the usual symptoms and occur abruptly during the manipulation, especially if there is severe laceration of the lung by the needle. Alternatively, symptoms may develop gradually over several hours after the acupuncture treatment.

Liver, spleen and kidney

Puncture of the liver or spleen may cause a tear with bleeding, local pain and tenderness, and rigidity of the abdominal muscles. Puncturing the kidney may cause pain in the lumbar region and haematuria. If the damage is minor the bleeding will stop spontaneously but, if the bleeding is serious, shock may follow with a drop of blood pressure.

Central nervous system

Inappropriate manipulation at points between or beside the upper cervical vertebrae, such as GV 15 yamen and GV 16 fengfu may puncture the medulla oblongata, causing headache, nausea, vomiting, sudden slowing of respiration and disorientation, followed by convulsions, paralysis or coma. Between other vertebrae above the first lumbar, too deep needling may puncture the spinal cord, causing lightning pain felt in the extremities or on the trunk below the level of puncture.

Other points

Other points which are potentially dangerous and which therefore require special skill and experience in their use include:

- BL 1 jingming and ST 1 chengqi, located close to the eyeball;
- CV 22 tiantu, in front of the trachea;
- ST 9 renying, near the carotid artery;

- SP 11 jimen and SP 12 chongmen, near the femoral artery; and
- LU 9 taiyuan on the radial artery.

Circulatory system

Care should be taken in needling areas of poor circulation (e.g. varicose veins) where there is a risk of infection, and to avoid accidental puncture of arteries (sometimes aberrant) which may cause bleeding, haematoma, arterial spasm or more serious complications when pathological change is present (e.g. aneurysm, atherosclerosis). Generally, bleeding due to puncture of a superficial blood vessel may be stopped by direct pressure.

6. Patient records

Patient records should contain full details of the medical history, clinical findings, diagnostic data, treatment plan and the response to treatment. They should be regarded as confidential.

Appendix

1. Sterilization of acupuncture needles and equipment

Sterilization is defined as the destruction of all microbes, including bacterial spores (*Bacillus subtilis*, *Clostridium tetani*, etc.). High-level disinfection is defined as the destruction of all microbes, but spores may survive if initially present in large numbers.

2. Methods of sterilization

Steam sterilization is the most widely used method for acupuncture needles and other instruments made of metal. It is nontoxic, inexpensive, sporicidal and rapid if used in accordance with the manufacturer's instructions (e.g. time, temperature, pressure, wraps, load size and load placement). Steam sterilization is only fully effective when free from air, ideally at 100% saturated steam. Pressure itself has no influence on sterilization, but serves as a means of obtaining the high temperatures required.

Dry heat can also be used for sterilizing needles and particularly for sterilizing materials that might be damaged by moist heat, but it may cause the needle to become brittle. It requires higher temperatures and longer sterilization times.

Recommended sterilizing temperatures and times for steam under pressure, and for dry heat, are shown in the table below.

Recommended methods of sterilization	
* Steam under pressure (e.g. autoclave, pressure cooker) Required pressure: => 15 pounds per square inch (101 kilopascals)	
Temperature	Time
115°C	30 minutes
121°C	15 minutes
126°C	10 minutes
134°C	3 minutes
* Dry heat (e.g. electric oven)	
Temperature	Time
160°C	120 minutes
170°C	60 minutes
180°C	30 minutes

(Source: WHO - GPA/TCO/HCS/95/16 p.15.)

Instruments made of rubber or plastic which are unable to stand the high temperature of an autoclave can be sterilized chemically, at appropriate concentrations and ensuring adequate immersion times (e.g. 6% stabilized hydrogen peroxide for six hours).

For cupping, it is recommended that glass rather than rubber or plastic cups should be used since glass can withstand the higher temperatures required for sterilization.

It should be noted that boiling needles in water is not sufficient for sterilization, nor is soaking in alcohol, since these methods do not destroy resistant bacterial spores or certain viruses.

3. Disinfection

A high level of disinfection is achieved when instruments are boiled for 20 minutes. This is the simplest and most reliable method of inactivating most pathogenic microbes, including HIV, when sterilization equipment is not available. Boiling should be used only when sterilization by steam or dry heat is not available. Hepatitis B virus is inactivated by boiling for several minutes; HIV, which is very sensitive to heat, is also inactivated by boiling for several minutes. However, in order to be sure, boiling should be continued for 20 minutes.

Chemical disinfection is used for heat-sensitive equipment that may be damaged by high temperatures. Most disinfectants are effective against a limited range of microorganisms only and vary in the rate at which they destroy microorganisms. Items must be dismantled and fully immersed in the disinfectant. Care must be taken to rinse disinfected items with clean water so that they do not become recontaminated. Chemical disinfectants are unstable and chemical breakdown can occur. They may also be corrosive and irritating to skin. Protective clothing may be required. Chemical disinfection is not as reliable as boiling or sterilization. The agents include:

- chlorine-based agents, e.g., bleach
- aqueous solution of 2% glutaraldehyde
- 70% ethyl or isopropyl alcohol.

(Source: WHO - GPA/TCO/HSC/95/16 p.16 and WHO AIDS Series 2, 2nd edition, p.3, 1989.)

4. Maintenance

All sterilizers should be checked periodically. The sterilizer should be loaded in accordance with the manufacturer's instructions, with enough air space between packages to permit the proper circulation and penetration of steam or hot air. The effectiveness of sterilization should be regularly checked with biological indicators, autoclave control indicators or such other tests as may be devised to ensure that the contents of the load have been subjected to sterilization conditions.

Use of a new pattern of sterilizing box to contain needles is recommended. The box is made of a special kind of metal sensitive to heat, with air holes that open automatically under high temperature, and close when the temperature falls below 75°C.

Annex I: List of participants

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