



# Alternative Systems

**Homeopathy** | Janet L. Levatin\*

## Homeopathy

### Introduction and Historical Background

#### Beginnings

Homeopathy has been classified as an alternative medical system by the U.S. Department of Health and Human Services.<sup>1</sup> This system of medicine was developed in the late 1700s by the German physician Christian Friedrich Samuel Hahnemann (1755-1843). Hahnemann lived in the period of Western history known as “the Enlightenment” or “the Age of Reason.” The Enlightenment was a time of many scientific discoveries, including advances in the field of chemistry. Medicine, however, was still a primitive practice that lacked humanism and rational principles for the treatments being used.

Raised in Meissen, Germany, Hahnemann was an outstanding student who excelled at languages, mathematics, and natural sciences. His reverence for the human body and mind, combined with his superior intelligence, led him to the study of medicine. When he began his medical practice, however, Hahnemann quickly became disillusioned with the conventional medical therapies of his day, which included bloodletting, purging of the body through the use of strong laxatives and emetics, and toxic medications that were given in large doses. He also decried the cruel, inhumane conditions to which the mentally ill were subjected. Hahnemann stood apart from most physicians of his time in advocating “fresh air, sensible diet, plenty of air, exercise and free movement,” as “the preliminary conditions of well-being,” in addition to sympathetic treatment for mentally ill patients.<sup>2</sup>

Because of his unwillingness to practice medicine using methods he considered crude and barbaric, Hahnemann withdrew from clinical practice to pursue experiments in chemistry. To support his family, he became a translator of medical texts and translated a number of major medical texts from French, Italian, and English into German. In 1788 he published an article that revealed that he was becoming interested in highly diluted medicines, an idea that later became one of the central principles of homeopathic methodology.<sup>2</sup>

It was while translating Dr. William Cullen’s *A Treatise on Materia Medica* from English into German that Hahnemann began self-experimenting with medicines. He read that the drug cinchona (Peruvian) bark was effective against malaria because of its tonic effect on the stomach and its bitter, astringent quality. Hahnemann could not see the logic in this thinking, as he

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**Naturopathy** | Matthew I. Baral

knew that a number of substances possessed similar characteristics but were not effective against malaria.

As an experiment aimed at understanding the effects of cinchona bark, Hahnemann ingested it for several days. He found that he developed symptoms very similar to those of malaria. In his notebook he recorded, “Peruvian (cinchona) bark, which is used as a remedy for intermittent fever [malaria], acts because it can produce symptoms similar to those of intermittent fever in healthy people.”<sup>2</sup> This discovery led him to the central concept of homeopathy, the principle of similars, which states that any substance that can cause a set of symptoms in a healthy person can also cure the same set of symptoms when they occur naturally in a sick person. Hahnemann devoted the rest of his life to exploring and expanding this principle into the science and art of homeopathic medicine.

#### Development of homeopathic methodology

Hahnemann continued conducting experiments, called *provings* (from the German *Prüfung*, meaning “test”), on a variety of substances. In a proving, a substance is taken and then the subject, called the *prover*, carefully records his or her experience, including physical symptoms, mental and emotional states, and dreams. To remove toxicity from the substances he was testing, Hahnemann later began diluting them to the point where deleterious side effects were removed. To heighten the action of his medicines, which had already been rendered nontoxic by dilution, Hahnemann began to vigorously shake, or succuss, his preparations after each of a series of dilutions. Hahnemann found, as a general principle, that the symptoms caused by a substance could also be cured by that substance.

Initially Hahnemann conducted his experiments on himself. Later he worked with a group of colleagues and associates who assisted him by participating in provings. Although Hahnemann wrote very little about children or infants, it is interesting to note that at least three of his own children were included in the group who volunteered to do provings for him.<sup>2</sup> Although they were adults at the time, one can surmise that if Hahnemann was willing to give homeopathic medicines to his own offspring, he must have believed them to be very safe.

Hahnemann’s experimental methods were advanced for his time, as empiricism in medicine was virtually unknown. His methods for proving and producing medicines are still used in homeopathy today, although aspects of newer experimental methodology, such as blinding (single-blinding or, less often, double-blinding), are often employed.<sup>3</sup>

Hahnemann’s most significant publication was his *Organon of the Medical Art*.<sup>4</sup> He published the first edition of the

*Organon* in 1810 and subsequently wrote five more editions, the last of which was completed by 1842 but not published until 1921. Hahnemann also recorded the findings of his provings in the book *Materia Medica Pura*.<sup>5</sup> This is a catalog of medicines and the symptoms, arranged by organ system, that these medicines produced in the provers. This format has been used for most successive volumes of homeopathic materia medica (see the section on homeopathic methodology for more information on homeopathic materia medicas). Hahnemann's work was initially well accepted, and his methods were soon adopted in about 30 countries.

### **Homeopathy comes to America**

Hans Burch Gram (1787-1840), an American physician of Danish extraction, is credited with bringing homeopathy to the United States in 1825 after being introduced to the discipline in Copenhagen.<sup>6</sup> Constantine Hering (1800-1880), a German physician who settled in the United States in 1833, was largely responsible for the rapid spread of homeopathy in the United States. Hering founded the Hahnemann Medical College in Philadelphia in 1848 and was one of the founders of the American Institute of Homeopathy (AIH). This professional medical organization for homeopathic physicians was founded in 1844, 3 years before the American Medical Association (AMA), and still exists today. Hering's *Domestic Physician*,<sup>7</sup> initially published in 1835, was one of the first books of homeopathic materia medica published in the United States. It was sold with a kit of approximately 40 homeopathic medicines and was intended to promote the spread of homeopathy by introducing it into families for use at home.<sup>8</sup>

Homeopathy was quickly embraced by mothers as a form of treatment that was much easier to administer to children than conventional medicines, as well as much safer. It was an important form of medicine in frontier regions where doctors were scarce and mothers often had to treat their own children's illnesses. In *Divided Legacy*, Coulter presents evidence that in the 1800s many American families employed homeopathy in the treatment of their children, even when the adults were still using allopathic medicine. Apparently the wives of a number of allopathic physicians sought treatment from homeopaths for themselves and their children.<sup>8</sup> A number of materia medicas on the diseases of infants and children were published in the 1800s and early 1900s, which provides evidence that homeopathy was commonly used for children at the time.<sup>9-14</sup> Homeopathic treatment of children was common enough that it was mentioned in popular literature written in the 1800s; for example, *Little Women*, by Louisa May Alcott, published in 1868, describes the use of homeopathic belladonna for prevention of scarlet fever in a child.<sup>15</sup>

Another seminal figure in the history of homeopathy was James Tyler Kent (1849-1916). Kent began his medical practice as a conventional physician and converted to homeopathy after his second wife became ill and did not respond to conventional treatments of the day. When she was cured by a homeopathic physician, Kent began to study homeopathy. Within several years he had become a leader in the field, founding a postgraduate school of homeopathy in Philadelphia and editing three homeopathic journals. Kent's lectures on materia medica and

homeopathic philosophy were transcribed and published by his students and are still read by homeopaths today.<sup>16,17</sup> Kent's lectures on materia medica contain more than 450 references to the treatment of children and infants.<sup>18</sup>

Kent's most important contribution to homeopathy was his *Repertory of the Homeopathic Materia Medica*.<sup>19</sup> A repertory is a compilation of symptoms, arranged by organ system, along with the medicines, extracted from materia medica, that are known to treat each symptom. In homeopathic practice, repertories serve as companion books to materia medicas, facilitating efficient searching of the literature for indicated medicines. Kent began compiling his repertory in the 1890s and worked on it for the rest of his life. After his death the work was edited several times by his third wife. Kent's repertory has served as the basis for numerous other repertories that were subsequently compiled.<sup>6</sup>

### **Decline of homeopathy in the United States**

The use of homeopathy peaked in the United States in the 1890s, with 22 homeopathic medical schools, more than 100 homeopathic hospitals, and 12,000 homeopathic practitioners. By the mid-1920s, however, most of these schools had closed, and by 1940 most of the hospitals had closed as well. Factors both internal and external to the profession of homeopathy contributed to the decline. The internal factors were poor organization, inadequate education of practitioners, and lack of adherence to the basic principles of homeopathy. Some homeopathic schools were started strictly as commercial ventures and offered poor-quality education. The AIH, the official organization for professional homeopaths, admitted poorly educated practitioners from these schools. Many doctors who called themselves homeopaths were not practicing in accordance with the basic principles of the method. Homeopaths were divided in terms of the homeopathic methodology they used, with some practitioners practicing polypharmacy (prescribing several medicines at once) instead of prescribing single medicines (see under Summary of Homeopathic Principles). Others combined homeopathic and allopathic medicines or routinely prescribed specific medicines for specific conditions or diagnoses in a nonhomeopathic manner. These practices caused the profession of homeopathy to crumble from within.<sup>6</sup>

External factors included the strong anti-homeopathic sentiments of conventional physicians toward homeopathy and the advent of modern medicine with its new pharmaceuticals that treated isolated symptoms and conditions in predictable ways. The AMA, founded in 1847, 3 years after the AIH, contained in its charter a proscription against AMA members consulting with homeopaths. All state medical societies, except that of Massachusetts, closed their doors to homeopaths. In addition, the work of homeopaths was banned from allopathic journals. Homeopathy became marginalized.

A report published by Abraham Flexner in 1910, entitled *Medical Education in the United States and Canada*,<sup>20</sup> proposed that all medical schools adopt a program similar to that taught at the Johns Hopkins School of Medicine at the time. Flexner was critical of most of the existing homeopathic medical schools, which he found to be lacking in scientific rigor. The Flexner report is often cited as one of the major factors that

led to the decline of homeopathy in the United States. Objectively speaking, however, the schools Flexner criticized indeed offered poor-quality education.<sup>6</sup>

### **Renaissance of homeopathy**

From the 1930s until the 1970s, homeopathy was kept alive in the United States by a small number of practitioners. These individuals were dedicated to the practice of homeopathy in the Hahnemannian tradition. In the 1970s more physicians became interested in homeopathy, as both doctors and patients sought ways of treating the sick with more humanism and fewer pharmaceuticals. Schools and programs that offered high-quality homeopathic education were formed.

Today U.S. homeopathic practitioners include physicians, osteopaths, dentists, nurses, advanced practice nurses, physician assistants, chiropractors, naturopaths, oriental medical doctors, and individuals who have received training as professional homeopaths but hold no other professional license. In the United Kingdom, the movement of professional homeopaths is large and well established. Homeopathy is also a thriving practice in many other parts of the world, most notably Europe and India. Current data show that homeopathy is used by approximately 2% to 3% of the U.S. and Canadian populations (see the section on current pediatric usage for more information).

### **Summary of Homeopathic Principles**

Homeopathy is based on several principles: individualization, holism, and the minimum dose.

#### **Individualization: the principle of similars**

The cornerstone of the homeopathic method is treatment by similars. As stated by Hahnemann, “*Similia similibus curentur*,” or “Likes may be cured by likes.” From the homeopathic perspective, symptoms are viewed as the body’s best attempt to regain homeostasis when it is out of balance. Often the body regains balance by itself, and symptoms resolve naturally; however, when the body is unable to correct an imbalance, symptoms persist, perhaps worsening with time, and the patient experiences this as illness.

Because homeopathic medicines, when correctly chosen, are similar to the patient’s illness, they work with the organism’s natural tendencies, rather than opposing them, as is often done in allopathic medicine (*Contraria contrariis curentur*, or “curing by contraries”). When a homeopathic medicine is chosen, the goal of the prescriber is to find the one medicine for which the proving symptoms most closely match the symptom picture and mental/emotional state of the patient. This medicine is called the *simillimum*. When the patient takes the *simillimum*, an energetic resonance occurs between the medicine and the patient’s disease, and the medicine cures the patient’s disease. The patient is then able to return to a state of homeostasis or normal health.

#### **Holism: the totality of symptoms, the single medicine**

Homeopathy is a form of holistic medicine in the sense that the whole person is considered when a homeopathic medicine is chosen. As the homeopathic practitioner takes the case from

the patient, which is done in an interview setting, he or she tries to understand as much as possible about the patient’s symptoms and their modalities (ameliorating and aggravating factors); emotional state; and various other characteristics, sometimes called *generalities*, such as appetite, food desires and aversions, temperature sense, and sleep habits. Traits and characteristics that are observed are often as important as what is reported verbally by the patient (or by the parent in the case of a nonverbal child).

When a medicine is chosen for the patient, its proving should contain all or many of the symptoms and characteristics of the patient. Instead of prescribing multiple medicines, one for each of a patient’s complaints, the homeopath prescribes one medicine, the *simillimum*, that has been found in its proving to cover all or most of the patient’s symptoms. The job of the homeopath is to identify what needs to be cured in the patient; to know (i.e., discover through research) what symptoms each available medicine can cure; and, finally, to match the single, correct medicine to the patient.

#### **The minimum dose: potentized medicines**

Homeopathic medicines are prepared by taking crude substances, including plants, minerals, and animal substances, and serially diluting them in alcohol. Substances are routinely serially diluted 30, 200, or 1000 or more times, yielding highly diluted solutions that often contain no trace of the original medicinal material. (See the section on homeopathic methodology for more information on preparation of medicines.) Hahnemann discovered that a diseased person is very sensitive to the correct medicine, the *simillimum*, and that only a minute amount of medicine is needed to stimulate a curative response. Homeopaths therefore treat the patient with the minimum amount of medicine, given the minimum number of times necessary to stimulate a curative response.

### **Homeopathic Methodology**

#### **Homeopathic pharmacy**

Homeopathic medicines (also called *homeopathic remedies*) can be made from virtually any substance. Medicines are typically made from plants, minerals, and animal substances such as honeybee and snake venom. They are also made from products of disease, such as bacteria, viruses, and bodily discharges (these medicines are called *nosodes*), as well as “imponderables,” including x-ray and the north pole of the magnet. Many of the crude substances are toxic at full strength. Plants are usually prepared as alcohol-based tinctures prior to dilution; mineral substances are usually prepared by trituration, or grinding, with milk sugar in a mortar and pestle.

After the initial extraction or trituration, the substance is diluted with water or a water/alcohol mixture in a series of 1:10 dilutions, called *X* (decimal) *potency medicines*, or a series of 1:100 dilutions, called *C* (centesimal) *potency medicines*. After each dilution in the process, the solution is vigorously shaken, or succussed. A medicine that has been diluted 12 times by a factor of 1:10 is called a *12X dilution* or *potency*; a medicine that has been diluted 30 times by a factor of 1:100 is called a *30C dilution* or *potency*. After the final dilution the solution is then incorporated into granules that contain lactose, sucrose, or both, which are administered orally or sublingually.<sup>21</sup>

A number of homeopathic pharmacies worldwide prepare homeopathic medicines according to exacting standards. The methods for correctly identifying substances and preparing medicines are outlined in a book of monographs, the *Homeopathic Pharmacopœia of the United States* (HPUS), which is published and regularly revised by the Homeopathic Pharmacopœia Convention of the United States (HPCUS). The HPCUS acts as a liaison between the Food and Drug Administration (FDA) and the homeopathic pharmaceutical industry.<sup>22</sup> It is interesting to note that the legislation forming the FDA was authored by Royal Copeland, MD, a homeopathic doctor and U.S. senator from New York. He wrote the Pure Food, Drug, and Cosmetic Act of 1938 and saw it passed into law, an effort that took much perseverance and several years. The *Homeopathic Pharmacopœia* was only one small part of this legislation.<sup>6</sup>

### **Clinical practice**

The steps in homeopathic prescribing are (1) identifying what needs to be cured in the patient through case taking; (2) translating the symptoms and characteristics of the patient into homeopathic language by referring to repertories, materia medicas, provings, toxicology reports, and other sources of data about potential medicines; and (3) choosing a homeopathic medicine for the patient.<sup>23</sup>

**Case taking.** Case taking is typically done in an interview setting. The patient is asked to relate his or her concerns, including physical, mental, and emotional difficulties. This is an open, fluid process in which the patient is encouraged to talk freely. Individualizing characteristics such as concurrent symptoms or symptoms that occur at specific times or under specific conditions are particularly valuable, as they help define a person's uniqueness. In a review of systems the homeopath can elicit information about food cravings and aversions, temperature sense, sleep, and other characteristics. Dreams can give important clues to the mental or emotional state of the patient. Observation of the patient is important. Gestures, facial expressions, and voice quality are a few of the many observable attributes that may help determine the choice of medicine.<sup>24</sup> Relevant data can also be gathered from laboratory, radiology, and specialists' reports.

When taking the case of an infant or child, the homeopath needs to gather information in different ways. The parent or guardian will report his or her concerns to the homeopath. Clues to the choice of medicine may be found in the story of the pregnancy or birth. Family history is important; diseases of parents or earlier ancestors, such as tuberculosis, cancer, and sexually transmitted diseases, may influence a child's health. Observation is particularly important in children who are nonverbal or have limited verbal skills. Facial expression, demeanor, and behavior in the consultation room can all provide valuable information to the prescriber.

Homeopathy can treat both acute and chronic conditions. Case taking for an acute illness will usually be quicker and less involved than case taking for a chronic illness.

The patient's mental and emotional states are important in both acute and chronic cases. In all cases, the most important signs and symptoms are those that are very characteristic of the patient's state at the time.

**Translating the case into homeopathic language.** After fully understanding the problems of the patient, as well as his or her nature and characteristics, the practitioner then works on translating this understanding into homeopathic language. First the practitioner must decide which observations are most characteristic of the patient's illness and thus most important. Then he or she must translate these symptoms and characteristics into homeopathic language by searching the homeopathic literature for passages that contains the words, experience, symptoms, and/or pathology of the patient. A repertory may be consulted for rubrics (categories of signs and symptoms) that encapsulate a patient's symptoms or pathology. The homeopathic medicines known to treat the named symptom will be found under the rubric. These medicines can then be studied in detail in a book of materia medica. The words the patient has used are often important. Because provings are written in the language of the prover, symptoms and experiences are subjectively described. Homeopathic provings and materia medicas, which are available on computer databases, can be searched for the exact words or phrases that the patient has used.

For example, in a case of acute croup, the following rubrics might be chosen: croupy cough, frightened facial expression, and midnight occurrence (Figure 5-1).<sup>25</sup> The most likely homeopathic medicines, *Aconitum napellus*, *Stramonium*, and *Spongia tosta*, can then be studied in a materia medica (Box 5-1).<sup>18</sup>

**Choosing a homeopathic medicine.** After the important symptoms and characteristics of the patient's illness are understood and the homeopathic literature is studied, a homeopathic medicine is chosen for the patient. More than 2000 medicines are included in the homeopathic pharmacopoeia, any one of which may potentially be the simillimum for the patient. Some medicines have been documented frequently and are overrepresented in homeopathic materia medicas and repertories, whereas others have been written about infrequently and are therefore underrepresented in the literature. Practicing homeopaths must be aware of this imbalance, as it causes some medicines, such as sulphur and *Calcarea carbonica*, to appear frequently in repertory analyses (when they are not the simillimum) and many other medicines to be absent. Knowledge of the natural sciences can aid greatly in choosing among the many available medicines. Studying classes of substances, such as botanical or animal families or a grouping of chemical elements or compounds, may aid in finding the indicated medicine.

No science has been developed to define the potencies of medicines that are optimal for use in different situations. There are no set guidelines for dosing frequency and length of a prescription, as there are for antibiotic prescriptions, for example. As a general rule, lower-potency medicines are thought to act more on the physical plane, and higher-potency medicines are thought to act on the mental and emotional as well as the physical planes.

Homeopathic medicines are administered orally or sublingually, or they can be dissolved in water and administered as liquid solutions. They are very easy to administer to infants and children, which makes homeopathy an ideal form

	Stram.	Acon.	Spong.	Samb.	Canth.	Ars.	Ars-i.	Sanguin.	Dros.	Lac-c.	Brom.	Kali-ar.	Lach.	Phos.	Apis
Total	7	9	5	5	3	4	3	1	3	3	3	2	4	4	2
Rubrics	3	3	3	2	2	3	2	1	2	2	2	2	2	2	2
Family															
Cough; croupy (61)															
Face; expression; frightened (26)															
Generalities; midnight; agg.; about (35)															

**FIGURE 5-1** Repertorization for a child with croup. From Rey L: *Thermoluminescence of ultra-high dilutions of lithium chloride and sodium chloride*, *Physica A* 323:67-74, 2002.



### Box 5-1

#### Materia Medica of *Aconitum Napellus*, One of the Homeopathic Medicines Used to Treat Croup

**HOMEOPATHIC**—Aconite's sphere is in emergencies and acute diseases. Serous membranes and muscular tissues affected markedly. Anxiety, fright and shock. A state of fear, anxiety, anguish of mind and body. Restlessness, physical and mental. Major remedy in inflammation and fevers. Complaints and tension caused by exposure to dry, cold weather, draft of cold air, checked perspiration.

Ailments of immune system, especially if caused by suddenly checked sweat or by dry cold air, storms or cold winds. Acute, sudden and violent illness with high fever. Glands painful, hot, swollen. Neuritis with tingling. Influenza and colds. Sudden and great sinking of strength. Sudden chills or fever.

Also complaints from very hot weather, especially summer diarrhea. Localized blood congestions and inflammations. Tension of arteries, emotional and physical tension. Burning in internal parts, tingling, coldness and numbness. Does not want to be touched.

Muscular rheumatism with high fever. Joint rheumatism, much fever, restlessness and anxiety. Swellings are red and hot (Bell.), or pale, shifting from one point to another. Complaints in joints are: shooting, cramp, cracking, loss of power, drawing pain in joints and tendons.

**CLINICAL**—Amaurosis. Anger. Asthma. Blindness. Breast-feeding, disorders. Bronchitis. Catalepsy. Catheter fever. Chicken-pox. Chills. Cholera. Cholera infantum. Colds. Convulsions. Cough. Croup. Cystitis. Dengue fever. Dentition. Diarrhea. Dropsy. Dyspepsia. Dysentery. Dysmenorrhea. Ear disorders. Enteritis. Erythema. Esophagus inflammation. Eye disorders. Face, flushing. Fear, effects. Fever, high. Fright, ill effects. Glossitis. Gonorrhoea. Headache. Heart disorders. Hemorrhages. Hemorrhoid. Hip-joint, disease. Hodgkin's disease. Influenza. Jaundiced. Labor pains. Laryngitis. Lumbago. Lungs disorders. Mania. Measles. Meningitis. Menstruation, disorders. Milk-leg. Miscarriage. Mumps. Muscle, pains. Myelitis. Nephritis. Neuralgias. Numbness. Paralysis. Peritonitis. Pleurisy, pain. Pneumonia. Puerperal fever. Purpura. Quinsy. Remittent fever. Roseola. Scarletina. Sleeplessness. Stiff-neck. Strokes. Tetanus. Tetany. Throat disorders. Tongue disorders. Toothache. Traumatic fever. Tuberculosis. Urethra, stricture. Urethritis. Urine, retention. Uterus, prolapsed. Vaccination, effects. Vertigo. Whooping-cough. Yellow fever.

**CONSTITUTIONS**—Children. Plethoric persons of a lively character, bilious and nervous constitutions, high color, brown or black hair, are specially suited to Acon. Persons leading a sedentary life, plethora, etc.

**MODALITIES**—Better in open air from rest. better from warm sweat. Worse from fright, shock, violent emotions and vexation. Worse from being chilled by cold winds, dry weather, while sweating. Worse from pressure touch in bed, noise, light, dentition during menses, sleeping in the sun. Worse lying on affected side. Worse from music from tobacco-smoke inspiration. Worse in warm room. Worse evening and at night.

**MIND**—Great fear, anxiety and worry accompany every ailment. Fears the future, a crowd, crossing the street. Forebodings and fears. Fears death and believes that he will soon die, predicts the day. Never well since a fright or shock. Ailments from fright. Fear of death and dying, great anxiety. Nightmares after horror stories or movies. Nightmares, phobias, panic attacks. Tendency to be startled. Someone has a fright, sees something very frightening, and they panic and go into a shock. Panic attacks with restlessness. Agoraphobia. Fears of going to doctors and dentists. Anticipation. Fears of public speaking with panic and anxiety.

From *ReferenceWorks Pro* 4.2, San Rafael, Calif, 2008, Kent Homeopathic Associates.

of medicine for the pediatric population. For a simple acute case, a 12C or 3C potency medicine can be given two or three times daily, then discontinued when the patient has begun to improve. For a chronic illness or a complicated acute illness, a 30C or 200C potency medicine can be given once or twice a

day, then discontinued when the patient has begun to improve. If a medicine has failed to help the patient after several doses, it is not the simillimum and should be discontinued. Another homeopathic medicine can then be administered, or another form of treatment can be tried as indicated.

 TABLE 5-1

### Laboratory Evidence for Activity of Highly Diluted Solutions

INVESTIGATOR(S)	EXPERIMENTAL PROTOCOL	FINDINGS
Rey	Expose ultra-high dilutions of lithium chloride and sodium chloride to x-rays and $\gamma$ -rays, and study the light emitted from the irradiated solutions	The light emitted from the solutions is specific to the chemical initially dissolved
Elia and Niccoli	Compare extremely diluted solutions with plain solvent (twice-distilled water) on the following measurements: heat of mixing with acid or basic solutions, electrical conductivity, and pH	Extremely diluted solutions show higher heat of mixing, higher electrical conductivity, and higher pH

From Rey L: Thermoluminescence of ultra-high dilutions of lithium chloride and sodium chloride, *Physica A* 323:67-74, 2002; and Elia V, Niccoli M: New physico-chemical properties of extremely diluted aqueous solutions, *J Thermal Anal Calorimetry* 75:815-836, 2004.

## Legal Status of Homeopathy

### Medicines

Most homeopathic medicines are classified as over-the-counter (OTC) preparations by the FDA. Any homeopathic medicine that can be used for a self-limited condition and has at least one clinical indication listed on its label can be marked as OTC.<sup>22</sup> It is important to remember that even though OTC homeopathic medicines are marketed with brief clinical indications on their labels, their potential uses are much broader and can be found in the homeopathic literature.

### Practitioners

In the United States, licensed medical doctors, osteopathic physicians, advanced practice nurses, and dentists can legally prescribe all homeopathic medicines in the HPUS. Other healthcare professionals and “lay” homeopaths can also recommend homeopathic medicines for patients, if the medicines are classified as OTC. A few U.S. states, notably Arizona, California, Connecticut, and Nevada, have specific boards for examining and certifying professional homeopaths. Other countries such as Great Britain, India, and New Zealand have recognized homeopathy as a profession in its own right.

### Theory of Homeopathy: Mechanism of Action

Homeopathy has not been well accepted by many in the medical and scientific communities because its mechanism of action has not been fully explicated. Most homeopathic medicines are so dilute that none of the original medicinal substance is contained in material form in the potentized medicine.\* This fact has led basic scientists and clinicians alike to reject homeopathy despite the clinical evidence of its efficacy and laboratory evidence showing that highly diluted, succussed solutions differ from plain water. Clinical evidence is summarized later in the section on evidence-based homeopathy. Laboratory evidence from two recent experiments is summarized in Table 5-1.<sup>25,26</sup>

\*According to a well-known principle of chemistry, if a substance is diluted by a factor of  $6.02 \times 10^{23}$  (Avogadro's number), there is a high statistical probability that no molecules of the original substance still exist in the solution. This dilution factor is reached when a homeopathic medicine is potentized to the 12C or 24X potency. Many homeopathic medicines are diluted well beyond this point and therefore contain no molecules of solute.<sup>21</sup>

Jonas has reviewed theories about the mechanism of action of homeopathy; he discusses solution dynamics, complexity science, and chaos theory, among others.<sup>27</sup> In 2004, Bellavite also reviewed complexity science and chaos theory.<sup>28</sup> Some principles of these theories are presented in brief in Table 5-2.

Most current explanations of homeopathy involve the emerging understanding of the qualities of water as a solvent and its ability to receive, hold, and transmit complex information that is specific to the solute employed. Researchers are still a long way from understanding how very diluted solutions work in the body to stimulate healing. It seems likely that the mechanism of action of homeopathy will be fully understood at some future time, after more high-quality basic and clinical research has been performed.

## Evidence-Based Homeopathy

### General considerations

Numerous research articles document the efficacy of homeopathy for a variety of conditions. For a comprehensive list of research articles that includes more than 90 conditions and is updated regularly, the reader is referred to *Homeopathic Family Medicine: The eBook*, by Dana Ullman, MPH.<sup>29</sup> Researchers investigating homeopathy have used both outcomes research and, more frequently, double-blind, placebo-controlled designs. Homeopathic research is particularly well suited to the use of placebos, as all homeopathic medicines appear similar due to the facts that they are prepared by incorporating liquid dilutions into small granules and that “blank” granules, which look and taste like active medicines, are readily available.

Homeopathy has performed well in some recently published outcome studies. When compared with conventional medicine for treatment of upper respiratory, lower respiratory, and ear complaints, homeopathy was found to provide relief more quickly, with fewer side effects and greater overall patient satisfaction.<sup>30</sup> A group of Scottish researchers has developed an outcome measures instrument for use in evaluating how patients perceive the impact of homeopathic interventions in their daily lives. Patients with both acute conditions (e.g., injuries, infections, allergic reactions, emotional shocks) and chronic conditions (e.g., rheumatic complaints, premenstrual tension, aftereffects of previous grief) were questioned after 1 year

 **TABLE 5-2**

### Theories Explaining the Mechanism of Action of Homeopathy and Some of Their Principles

THEORY	MECHANISM OF ACTION AND PRINCIPLES
Solution dynamics	<i>Clathrate (cluster) formation:</i> Water molecules in diluted, succussed solutions are not uniform; water molecule clusters mimic dissolved chemicals in unique and reproducible ways <i>Coherent excitation:</i> Vibrating water molecules activate other water molecules in a solution and set up similar vibration patterns
Complexity theory	<i>Nonlinearity:</i> The relationship between input and outcome is not proportional, leading to inverse, opposite, paradoxical, and biphasic events such as those seen in homeopathy <i>Self-organization:</i> Some complex systems can generate order from disorder; in fractals, for example, a minute part of the structure looks the same as the whole

From Jonas WB, Jacobs J: *Healing with homeopathy: the doctors' guide*, New York, 1996, Warner Books; and Bellavite P: Complexity science and homeopathy: a synthetic overview, *Homeopathy* 92:203-212, 2003.

 **TABLE 5-3**

### Outcome Results for 100 Sequential Patients with 80% Returns in the Glasgow Homoeopathic Hospital Outcome Scale

OUTCOME MEASURE	PERCENTAGE OF PATIENTS EXPERIENCING IMPROVEMENT (%)
Improvement in presenting complaint	60
Improvement in well being	61
Sustained improvement of value in daily living	49
Sustained reduction in conventional therapy	37

From Reilly D: The evidence for homoeopathy (version 9.0): a discussion of the evidence profile for homoeopathy. Available at [www.adhom.com/adh\\_download/download.html](http://www.adhom.com/adh_download/download.html). Updated September 2006.

of homeopathic treatment. Results for 100 sequential patients, with 80% returns, are summarized in Table 5-3.<sup>31,32</sup>

Numerous clinical trials have compared homeopathy with placebo or conventional treatment. These trials have been done on a variety of conditions including asthma, allergies, postoperative complications, childhood diarrhea, and rheumatic diseases. A 1997 metaanalysis of 89 well-conducted trials, covering 24 clinical conditions, showed a combined odds ratio of 2.45 in favor of homeopathy, leading to the conclusion that the therapeutic effects of homeopathy cannot be explained by the placebo effect alone.<sup>33</sup> Another review of 119 placebo-controlled homeopathic trials, published in 2003, revealed similar findings.<sup>34</sup> When high-quality studies (those with adequate sample size, randomization, blinding, and other controls of bias) are considered, homeopathic treatment has shown statistically significant positive results. No single condition has been studied comprehensively enough, however, for researchers to state unequivocally that homeopathy is a consistently effective treatment. More research on individual conditions is recommended.

### Methodological considerations

Double-blind, placebo-controlled trials in homeopathy have been conducted in several ways. One method involves testing one homeopathic medicine for a given condition, as was done in a 1983 study that tested one homeopathic medicine, *Rhus toxicodendron*, against placebo for osteoarthritis.<sup>35</sup> It is not surprising that homeopathy performed no better than placebo, as the medicine was not individualized to the patients' symptoms. Even though a potentized medicine was used, this study should not be considered a valid test of homeopathic treatment, as homeopathic methodology was not employed. In another study testing *Rhus toxicodendron* against placebo for fibromyalgia, only patients whose symptoms were similar (related) to the characteristics of the medicine were entered into the study before randomization occurred. In this case, homeopathy performed significantly better than placebo.<sup>36</sup>

Other research methods have been employed, including utilization of a potentized substance closely related to the disease being studied, such as grass pollen for nasal allergies,<sup>37</sup> or utilization of a combination of potentized substances where each individual substance is known to sometimes be efficacious for the condition being studied. In one such study a combination of homeopathic medicines was used to treat patients with influenza.<sup>38</sup> Even though these experiments sometimes show the potentized medicine to be superior to placebo or conventional treatment, it should be kept in mind that such experiments are also not true tests of homeopathy, as the central principle of the method—individualization of the medicine to the patient—has not been applied.

The best design for homeopathic research is for each patient entering the study to have an individualized homeopathic medicine chosen for him or her on the basis of a homeopathic interview and analysis. Then, if the patient is randomized to the homeopathic group, he or she will receive the medicine most likely to be effective for his or her condition. This research design would test the homeopathic method, not just a specific homeopathic medicine, for a given condition. All homeopathic research papers must be read critically to assess whether proper methodology has been employed.

### **Homeopathic research on pediatric conditions**

A small body of research exists on homeopathic treatment for two common pediatric conditions, otitis media<sup>39-41</sup> and diarrhea.<sup>42-45</sup> Otitis media is worthy of more research, as it is the most common diagnosis made in children under the age of 15 in physicians' office practices in the United States; 50% to 85% of 3-year-old children have had at least one episode of otitis media, and 39% of 7-year-old children have had three or more episodes.<sup>46</sup> Not surprisingly, otitis media is frequently treated by homeopaths.<sup>47</sup> Research findings will be summarized in the chapter on otitis media.

Acute diarrhea also merits further research, as it is the leading cause of pediatric morbidity and mortality in the world, causing an estimated 2 million deaths per year in children younger than 5 years.<sup>48</sup> Research findings will be summarized in the chapter on diarrhea.

### **Current Pediatric Use**

To date there has been no large-scale survey documenting the use of complementary and alternative medical (CAM) therapies in general, or homeopathy specifically, in children. Some estimates on the use of homeopathy in children can be made, however, by generalizing from a small survey that was conducted on a pediatric population and by making some inferences from data collected on adults.

In a 1994 survey performed in a hospital-based pediatric clinic in Canada, it was found that 11% of children had been treated by a CAM practitioner, with homeopathy being the CAM therapy used second most frequently (25% of respondents), after chiropractic (36% of respondents), with a yield of 2.75% of children having received homeopathic treatment. Overall, CAM treatments, including homeopathy, were most often used for the following organ systems and conditions: respiratory, ear-nose-throat, musculoskeletal, dermatological, gastrointestinal, and allergies. Parents who included CAM in their own medical care were more likely to use it for their children.<sup>49</sup>

In a 1992 survey that compared practice characteristics of homeopathic physicians with those of general and family physicians, it was found that homeopathic physicians see a larger percentage of pediatric patients; among the homeopathic physicians, 23.9% of patients seen were less than 15 years old, compared with 16.6% for the conventional physicians.<sup>47</sup> Another survey of homeopathic (n=42) and naturopathic (n=23) practitioners, conducted in 2000 in Massachusetts, revealed that approximately one third of the patients seen by the respondents were children.<sup>50</sup> These surveys indicate that homeopathy may be used disproportionately more frequently for children than adults.

The most recent data on CAM usage in the United States were generated in a 2002 survey of 31,044 adults.<sup>51</sup> Of the respondents, 3.6% reported having used homeopathy in the past, with 1.7% having used it in the previous 12 months. These data were generated from individuals who used homeopathy either with professional consultation or as a form of self-treatment (most homeopathic medicines are classified as OTC and therefore can be self-administered). It is likely that a similar percentage of children in the United States were also treated homeopathically.

### **Contraindications and Adverse Effects Reported for Pediatric Use**

There are no absolute contradictions for the use of homeopathy. Because homeopathic medicines are highly diluted, they are usually free of side effects. Homeopathy is generally safe for infants and children of all ages, as well as for women during pregnancy and lactation (this is one of the reasons homeopathy is an excellent form of therapy for children).

A systematic review of the literature on the use of homeopathic medicines found that side effects are rare.<sup>52</sup> A phenomenon commonly referred to as an "aggravation of symptoms" is observed in as many as 25% of patients treated with homeopathic medicines.<sup>53</sup> The aggravation consists of an initial worsening of symptoms, typically lasting no more than several hours, which is often followed by a decrease in or resolution of symptoms. Aggravations may represent proving symptoms that are stimulated by the potentized medicine (see earlier discussion of provings).

Because homeopathy is a form of energy therapy, it has no biochemical interactions with other medications, so it is safe to use in conjunction with allopathic medicines as well as herbs or acupuncture. As with other forms of nonstandard therapy, one of the potential dangers is that homeopathy will be used alone in cases where standard or conventional therapy is indicated, leading to a negative outcome for the patient.

### **Safety and Precautions for Pediatric Use**

For any significant medical condition, either acute or chronic, children being treated homeopathically should be seen by a professional with expertise in both medicine and homeopathy.

## **Naturopathy**

### **Historical Background**

Naturopathic medicine is as much a philosophy as it is a medical practice. It is based on the use of a variety of natural therapies to treat disease. Depending on the state in which one is licensed to practice, a naturopathic physician (Naturopathic Doctor/ND/NMD) may use botanical medicine, physical medicine, homeopathy, mind/body medicine, oriental medicine, nutritional therapy, or diet and lifestyle changes to treat disease. Some states also provide prescriptive rights for naturopathic physicians. A naturopathic physician has completed a 4-year, postbaccalaureate degree at an accredited naturopathic medical school program. Currently, there are four accredited schools in the country: Bastyr University in Seattle; Southwest College of Naturopathic Medicine in Tempe, Arizona; National College of Naturopathic Medicine in Portland, Oregon; and the University of Bridgeport in Bridgeport, Connecticut.

Naturopathic physicians are a diverse group of practitioners. The U.S. naturopathic medical school system trains naturopathic medical students primarily as family practitioners. However, some practice exclusively in subspecialties, such as cardiology, women's medicine, men's health, pediatrics, and sports medicine. Other naturopathic physicians prefer to focus on certain areas of naturopathic treatment modalities, such as homeopathy, botanical medicine, or physical medicine. Although they are a diverse group, most practitioners agree on the common principles of treatment.