

What is homeopathy and does it work?

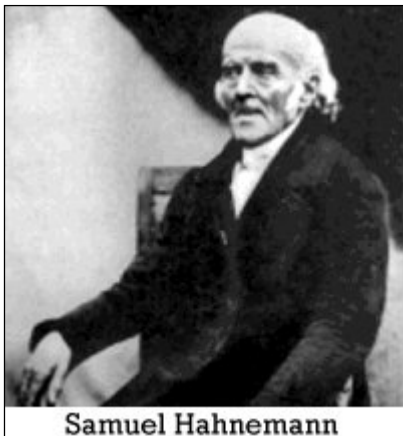
An overview of the alternative medicine homeopathy

By John Jackson © 2006

What is homeopathy?

Homeopathy began in the late 1700s, developed by a German doctor named Samuel Hahnemann. It was developed as an alternative to the then pre-scientific conventional medicine of the day such as bloodletting, and other practices designed to balance the body's four "humours" which were thought to be: phlegm; blood; yellow bile; and black bile.

Hahnemann was disillusioned with the often-severe treatments that were being used and was looking for a more natural way to treat illnesses. He was quite a rebel in his day causing much controversy in promoting homeopathy, which was never accepted



Samuel Hahnemann

by the medical community. Homeopathy did become more popular though; not surprising when the conventional medicine of the day used bloodsucking leeches, Arsenic, Mercury, Lead, and other practices that today we would think of as barbaric.

Today, homeopathy is still considered a form of alternative medicine. The concept is that substances that cause symptoms in healthy people, such as raw onions causing sore, tearful eyes, can be used in extreme dilution to treat illnesses that cause the same symptoms. In this example, extract of raw onion could be used as an ingredient (extremely diluted) in a remedy to treat colds, flu, or other illnesses that produce the same symptoms.

Hahnemann believed that life depends on an invisible and undetectable 'vital force' which runs through the body (vitalism) which if disturbed will lead to illness or disease. His remedies, he believed, restored balance to

the disrupted vital force therefore allowing the body to heal itself.

Homeopathy is meant to be an individualised treatment - or a [holistic](#) approach to medicine. This means that every remedy should be individually tailor-made to suit the patient by the homeopath after having ascertained the patient's symptom profile; symptoms, to a homeopath, being anything such as personal and social interactions, dreams, emotional issues, as well as physical symptoms of disease or illness.

Homeopathy and herbology

Although homeopathy and herbology (herbal remedies) are often confused with each other, they are actually quite distinct from each other. Although some herbs are used in the preparation of homeopathic remedies the mechanisms by which they are meant to work are different. In fact, they are the opposite of each other.

The fact that many companies provide both herbal and homeopathic remedies under the same brand name only adds to this confusion.

The theory of how it works

In homeopathy, a key premise is that every person is subject to a universal "vital energy" which needs to be balanced to promote the body's self-healing response. When this energy is disrupted or imbalanced, health problems develop. Homeopathic remedies aim to restore vital energy balance and thus stimulate the body's own healing response.

Hahnemann had noticed that a chronic skin rash would clear up when the patient contracted measles. This led him to conclude that one disease could be replaced by another one that gave rise to similar symptoms. Homeopathic remedies are meant to introduce the same symptoms to the patient that their illness/disease produces and this gives rise to the disease/illness being driven out by this act of 'replacement'.

Hahnemann devised 'natural laws' as the basis on which homeopathy is founded:

Like cures like (the law of similars)

If a patient went to a homeopath complaining of insomnia (trouble sleeping), the homeopath would look for a remedy which caused the same symptoms in a healthy person and use it in homeopathic dilution to treat the insomnia patient: Caffeine, for example, would be considered a useful ingredient in an insomnia remedy. The premise is that by introducing something that causes the same symptoms as the condition, it will cause the body's immune system to remove whatever was causing the original symptoms. This has in no way been proven to be a natural law.

Hahnemann came to this conclusion after taking Chinchona bark extract, which caused him to develop fever-like symptoms similar to those caused by malaria. Chinchona bark extract was a known treatment for malaria and so Hahnemann devised the like cures like hypothesis from this observation. Chinchona, however, does not produce these symptoms in most people so it has been suggested that Hahnemann was allergic to one of the compounds in the extract. If so, this means that a key aspect of homeopathy is based on a false conclusion.

Critics of homeopathy have pointed out that this 'law of similars' is an idea based on *sympathetic magic*: where the similarity between things is believed to allow a non-physical interaction between them. Familiar examples of this idea are Voodoo (where the likeness of an effigy doll to the target person means it can affect the targeted person) and Asian men with erectile dysfunction using Rhino Horn in an attempt to cure their problem. There's no good reason to believe that there's any truth to sympathetic magic - it is a form of superstition.

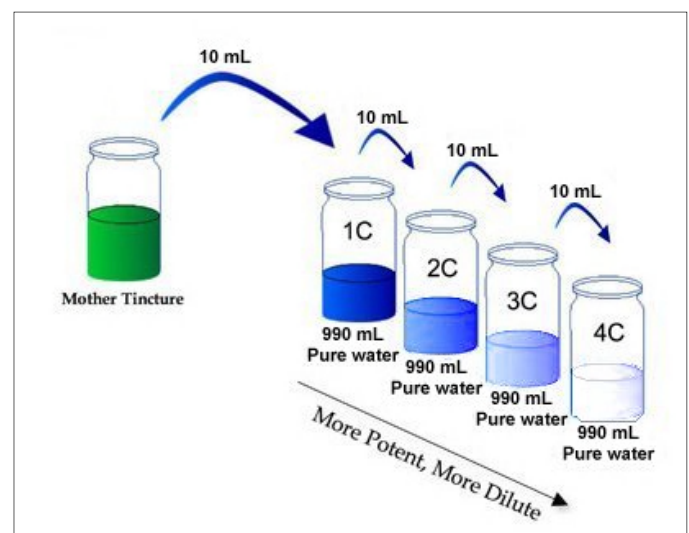
To determine which substances can be used as homeopathic remedies and which medical conditions they can be used to treat, homeopaths have devised a system they call "proving". Healthy volunteers usually take potions of various chemical compounds, plant extracts, or proposed remedies, in various homeopathic dilutions, for around six weeks and log any physical or emotional symptoms they feel. The symptoms reported by these healthy people, which are assumed to be the result of the homeopathic potion that the person took, are logged. If a patient later presents the same symptoms to a homeopath, the potion that allegedly caused the same symptoms in the healthy volunteers can be used as the remedy for the patient.

NOTE: a 'proving' as used by homeopaths has a different meaning to something that has been proven to work in clinical trials. It implies, but offers no actual proof of, efficacy.

The theory of infinitesimals

Hahnemann used many dangerous ingredients in his research and realised that such compounds needed to be diluted to be used. The system he developed became known as the theory of infinitesimals. It is obvious that diluting a substance weakens its effects so in order to preserve the effects of the remedy despite the dilution, Hahnemann developed the dilution process known as 'potentisation'.

Homeopaths start with a mother tincture (the remedy to be used dissolved in water or alcohol) and then normally dilute the remedy by 1 part in 100 (known as a C dilution) - although 1:10 dilutions (X potencies) and 1:1000 dilutions (M potencies) are also used. In order to retain the properties of the mother tincture the diluted remedy is shaken vigorously (known as succussion) and banged ten times against a solid object. This process is believed to transfer the 'spiritual essence' of the remedy to the water it is diluted in. This is a 'potentised' 1C solution.



That is just the beginning of the process however. Another dilution is then done to produce a 2C potentised solution (1 part mother tincture in 10,000 of water). Then again to produce a 3C solution (1 part mother tincture in 1,000,000 of water) etc.

Hahnemann thought that he had discovered a unique property of potentisation: he believed that the more times the remedy was diluted the more powerful it became. This finding, however, is invalidated by pharmaceutical dose-response studies, which show that increasing dosage increases the effect of a drug (whether good or bad) and vice versa.

It wasn't known in Hahnemann's day but there is a limit to how far a substance can be diluted. Once the 12C dilution is reached there's only a 60% chance that *one*

single molecule of the original mother tincture remains in the solution. ([In depth explanation](#)).

Modern homeopaths are aware of this fundamental flaw but they still go on diluting past the 12C potency. One of the most common potencies used is 30C. i.e. once the 12C limit has been reached they dilute the remedy by 1:100 a further 18 times. Of course this means that all that is being done is that water is being dissolved in more water - there's none of the original mother tincture left in the solution.

Homeopaths have an answer to this however. They believe that water has a 'memory' - through the process of potentisation, the water remembers the 'essence' of the mother tincture that was once dissolved in it.

Once the remedy has been obtained in the required potency, sugar pills are dipped in the remedy and allowed to dry. The essence of the original mother tincture is now believed to have been transferred to the pill. If a pill with the essence of the remedy is allowed to come into contact with other sugar pills (such as placing them all together in a jar), it is believed that the other pills will also acquire the essence of the mother tincture. This process is known as 'grafting'.

Criticism.

Critics point out that no scientific evidence exists which shows that anything to do with the theory of infinitesimals is true, and that most of the explanations homeopaths come up with again rely upon sympathetic magic; notably the *law of contagion*: the idea that a non-physical connection persists between things that were once in contact. Examples are: despite being dry cleaned many times, most people would refuse to wear a jacket once worn by Hitler; or, people will pay tens of thousands of pounds for a 40-year-old guitar that was once owned by John Lennon despite the fact that identical guitars are worthless.

Sympathetic magic is a metaphysical concept and none of its properties have ever been shown to be real. This leads to the obvious conclusion that homeopathic remedies are simply water or sugar pills that have been dipped in water. i.e. they contain no ingredients.

Homeopathic remedies that are below the 12C limit will still have a chance of having some of the mother tincture present, although in extremely dilute form; however, the mother tincture was also prepared based on the rules of sympathetic magic and so will be extremely unlikely to have any therapeutic effect.

Scientific evidence and homeopathy

There are currently no good quality studies that show homeopathy really works over and above the [placebo effect](#). There are many small studies which show it

works, although they tend to be poorly designed and conducted by homeopaths themselves. Larger studies that are well designed and conducted scientifically do not show that homeopathy works at all. The evidence for homeopathy seems to be inversely proportional to the quality of the studies done: the better the study the less chance of a positive finding.

See Bandolier at Oxford university: [Bandolier](#)

NOTE: The results of testing produce:

THE TRUE RESULT + MARGIN OF ERROR

It is possible for something that has zero chance of working (zero chance of being true) yet still give positive results in some trials. The reason is that testing procedures will always have errors in them (researcher bias, poor methodology, poor randomisation, lack of adequate controls, etc.). A threshold is normally set to allow for errors but if the errors are large the result can look positive because they pass the threshold. It is this phenomenon that is referred to when reviewers talk about 'low quality trials' giving erroneous positive results.

The theory of "water memory" was investigated by French professor Jacques Benveniste and his results seemed to show that homeopathically treated water could indeed affect living cells in a way that untreated water couldn't.

His claims were put to a thorough test by BBC's Horizon with investigator James Randi: [BBC's Horizon](#).

The test results were negative.

As homeopathy has great trouble in showing any effect above placebo in trials, homeopaths will often state something like this quote from the Society of Homeopaths:

"It has been established beyond doubt and accepted by many researchers, that the placebo-controlled randomised controlled trial is not a fitting research tool with which to test homeopathy."

This is known as *special pleading* - a hallmark of pseudoscientific reasoning. In science, if something cannot pass a properly controlled trial the logical conclusion is that it doesn't work. With homeopathy (and other alternative medicines) the supporters tend to start with the conclusion (i.e. homeopathy works) and when it fails in properly controlled trials they conclude that homeopathy works but properly controlled trials are not the way to prove it!

In reality, homeopathy is ideally suited to Randomised Controlled Trials (RCTs) as the remedies can be given in pill form. Homeopaths say that each remedy needs to be individually tailored to the patient so it cannot be tested

in RCTs, but in reality, this merely adds a level of complexity to the trial design. It can still be done.

Are homeopathic remedies dangerous?

There is little concern that properly prepared homeopathic remedies are harmful in themselves. It is often claimed by homeopaths that their remedies have no side effects, are safe to use on babies or during pregnancy, and that they do not interfere with other prescribed medications. This is true as homeopathic remedies do not contain any ingredients: they are basically just water or sugar pills; but other concerns do exist:

1. **Avoiding appropriate treatment.**

Should a person develop a serious condition and rely on homeopaths or homeopathic remedies as their primary source of medical care they could be delaying an appropriate diagnosis and/or treatment, which could have a deleterious effect on their health and well-being. Or worse, death. Unfortunately, there are many homeopaths prepared to treat cancer patients, for example.

Most homeopaths are not medically qualified and have little or no idea about proper medical diagnosis. Their idea of medicine is based on the magical properties inherent in the homeopathy belief system. As such, homeopaths are likely to miss a serious ailment in a patient who should be referred for proper medical treatment and/or attempt to treat such ailments with homeopathic remedies. For example, a person reporting feeling tired may get some temporary relief from a homeopathic remedy/consultation due to placebo effects, but if the underlying cause is diabetes, homeopathy is not going to cure it and the damage to the patient will continue to occur.

2. **Dangerous advice from homeopaths.**

In July 2006, [Sense about Science](#) investigated claims that homeopaths had been giving dangerous information to consumers about malaria prevention. An undercover reporter asked for advice about anti-malarial preparations before going on a trip to a malaria-infested country. In ten out of ten cases, homeopaths recommended homeopathic products without suggesting that the person also consult a GP. As there are no ingredients in homeopathic preparations they cannot possibly offer protection against malaria.

Dr Ron Behrens of the London School of Hygiene and Tropical Medicine said: "*We've certainly had patients admitted to our unit with*

the malignant form of malaria who have been taking homeopathic remedies and without a doubt the reason that they were taking them and not effective drugs was the reason they had malaria."

Homeopathy was developed before scientific medicine was available. Advances in medicine like the germ theory of disease had not been discovered so Hahnemann's homeopathy had nothing to say on such issues. The problem is that modern homeopaths often stick dogmatically to Hahnemann's original principles and oppose such health benefits as antibiotics and vaccination.

Another danger lies in the fact that many homeopaths believe in what they call a "healing crisis". This is where a person who takes a remedy will actually get worse before getting better. This is put down to "toxins" being expelled from the body. Of course if someone is seriously ill and their condition is getting worse then they may not seek proper medical treatment as they put their declining physical state down to a healing crisis.

There is also the problem of [adulteration](#) by unscrupulous dealers, especially with remedies from abroad or purchased from abroad via the Internet. The lack of proper regulation means that homeopathy, as with other alternative medical practises, can be a magnet for charlatans.

Homeopathy for consumers

According to the principles of homeopathy, each remedy needs to be individually tailor-made for each patient by a qualified homeopath after taking a symptom profile of the patient and matching his or her symptoms up to those listed for various 'proved' remedies. It is interesting to note, however, that although homeopaths claim that each person is unique and every remedy has to be individualised, the individualised remedy is selected based on the symptoms reported by other people taking the exact same remedy (during a 'proving').

This individualisation requirement does not stop the sale of over the counter (OTC) homeopathic remedies however. Such remedies have not been individualised and should not work according to homeopathy yet they are sold OTC with indications on the labels as to which symptoms they can be used for.

This ludicrous situation was actually helped by the MHRA (the Medicines and Healthcare products Regulatory Agency - responsible for ensuring that medicines and medical devices *work*, and are acceptably safe), which in 2006 allowed homeopathic remedies to be sold with indications OTC as long as they were proved to be safe and manufactured to a high quality. The requirement, which is mandatory for real medicine, that homeopathic

products show proof of efficacy (i.e. that they work) was dropped.

Although there is regulation for OTC homeopathic remedies, there is no restriction on who can practise as a homeopath. Quite literally *anyone* can decide they want to be a homeopath and start practising. Although some medically qualified people practise homeopathy, the majority of practitioners are unqualified lay people. Someone claiming to be a 'qualified homeopath' has simply passed some exam which teaches the tenets of homeopathy; it does not qualify them to perform a medical diagnosis or dispense proper medical treatment. It's a case of 'buyer beware'.

Conclusion

Homeopathy is best described as a belief system rather than a system of medicine.

Homeopathy also qualifies as a [pseudoscience](#). It contradicts the known laws of physics, chemistry, and pharmacology; it is also dogmatic, relies on anecdotes rather than evidence, requires special pleading to explain its failures, and relies heavily on the magical thinking of both its proponents and its consumers.

Many people use homeopathy because they believe it works; probably as a result of placebo effects or other [confounding factors](#). As a benign treatment, homeopathy is not going to harm patients directly; however, it is not completely without risk: those who

turn to homeopaths when real treatment is required could be risking their health.

The problems with homeopathy as a system of medicine are:

1. Lack of a sound theory.

The theories behind homeopathy simply cannot work (unless, of course, one is prepared to believe in sympathetic magic). They may have seemed tenable in the pre-scientific-medicine era two centuries ago, but to modern science they are simply ludicrous.

2. Lack of medical evidence.

A lack of understanding of how a treatment is meant to work does not mean that it should be dismissed. Testing should be carried out in case something works even though the mechanism is not known. Fortunately, homeopathy has been tested in *quality trials* and the results show that it works at the same level as the placebo control. In other words, homeopathy has no therapeutic effect - the perceived improvements due to homeopathy are purely placebo effects.

Proponents of homeopathy are often fanatical in their defence of it, but if we remove the emotion and belief from it and look simply at the facts in an objective manner it is quite clear that homeopathy does not have any robust evidence to support the claim that it works.

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