# Considerations when addressing questions about potential for adverse effects and drug interactions with homeopathic remedies

Prepared by UK Medicines Information ([UKMi](http://www.ukmi.nhs.uk/ukmi/about/default.asp?pageRef=1)) pharmacists for NHS healthcare professionals

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## Background

The term homeopathy (homoeopathy) comes from the Greek word "homoios" which means similar and "pathos" which refers to disease or suffering. This "similar suffering," also known as the "law of similars" was first introduced by Hippocrates in the fourth century B.C. The "law of similars" became the foundation for homeopathy in Germany, led by Samuel Hahnemann (1755-1843) (1, 2). This Q&A considers the principles underlying homeopathy and provides advice on how to deal with medicines information enquiries on drug interactions and adverse effects in those individuals taking homeopathic remedies.

## Answer

### Basic principles of homeopathy

The principles on which homeopathy is based are very different to conventional medical beliefs. In conventional medicine it is widely accepted that a person’s response to a drug is proportional to the amount of drug given. Homeopathy is based on entirely different theories. Two theories central to homeopathy are;

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| --- | --- |
| **Decimal** | **Centesimal** |
| 1x 1:10  2x 1:100  3x 1:1000  4x 1:10000  5x 1:100000  6x 1:1000000  30x 1:1030 | 6c 1:1012  12c 1:1024  30c 1:1060  200c 1:10400  1M 1:102000  10M 1:1020000  LM 1:10100000 |
| Table 1. Common Potencies of Homeopathic Remedies. *Adapted from an article by Barnes J (3)* | |

* *Like cures like*: A substance, that could in conventional doses cause an undesirable effect, is used, in very dilute amounts, to treat that symptom (2). For example, oral consumption of arnica can cause a reduction in platelet aggregation, which could increase bleeding and bruising, however homeopathic doses of arnica are used to prevent or treat bruising.
* *The more dilute a preparation is the more potent it is*. Homeopathic remedies are prepared by repeated dilutions of a base substance, called a mother tincture, followed by vigorous shaking with impact (succussion) (1). The mother tincture is prepared from the extraction of a source material using water/alcohol solvent (2). The dilution process is known as potentisation, implying that each subsequent dilution and succussion increases the potency of the preparation (2).

Two dilution systems are in use, decimal (x) and centesimal (c). Remedies prepared according to the decimal (x) system are prepared by diluting one part of the mother tincture with nine parts of solvent (water or alcohol). The new mixture is then vigorously shaken (succussed). In this example, the new mixture is called a 1x potency. In the next step one drop of the 1x preparation is mixed with another 9 drops of solvent and after succussion is called a 2x potency. This process is continued to produce a 3x, 4x, until the final potency is reached (1, 2). A similar process is used for centesimal (c) potencies. The difference is that 99 parts of solvent are added to one part of the mother tincture and each subsequent potency to create 1c, 2c, 3c, etc. Sometimes the letter ‘c’ may be left out when describing the potency. In the absence of any letter, centesimal (and not decimal) potencies are implied (2).

The final remedy can be in a liquid form, in medicated lactose pellets or incorporated into topical creams (1, 2). Although the original ingredient in a homeopathic remedy is often from a plant source, homeopathy is quite different from herbal medicine, which uses therapeutic doses of dried plant material or extracts of plant parts to treat a patient’s symptoms (4).

### Drug Interactions

There is no evidence that homeopathic remedies interfere with conventional medicines (5). Indeed, dilutions of more than **12c** or **24x** are diluted beyond Avogadro’s constant and are unlikely to contain any molecules of the active ingredient(s). Provided they are from a reputable source (see Regulation section) and of the strength stated, it would not be anticipated that there would be any interaction with conventional medicines based on conventional beliefs. Remedies of less than 12c or 24x (e.g. 6c) may theoretically contain active ingredients. Although it is likely that many of these remedies will be too dilute to pose any real risk of an interaction with conventional medicines, it may be prudent to treat the enquiry as if the product were a herbal preparation. If the dilution of the remedy is unknown the same advice would apply. It has been suggested that steroids may inactivate homeopathic remedies to some extent reducing the expected effectiveness of the homeopathic remedy (5).

### Adverse effects

A systematic review and meta-analysis concluded that adverse effects in randomised, controlled trials were experienced by a similar proportion of patients randomised to homeopathic treatment and those randomised to control, i.e. placebo or conventional medicine (6). However, this conclusion was disputed by another author, who, when performing their own analysis of the results found significantly more adverse effects to be associated with homeopathy than placebo, and significantly fewer with homeopathy than conventional medicine (7). Similarly, a systematic review in 2000 found the mean incidence of adverse effects with homeopathic remedies to be greater than placebo (9.4 versus 6.1) in controlled trials. Effects were minor, transient and comparable, but the authors considered adverse effects of homeopathic remedies were likely to have been under-reported (8).

Posadzki et al addressed the safety of homeopathic remedies in a systematic review of published case reports and case series. They concluded that homeopathy has the potential to harm patients in both direct and indirect ways and suggested that adverse effects were caused by three main effects: allergic reactions, ingestion of toxic substances and substitution of conventional care (9). In 94.7% of the cases, the potencies were described as below 12c (9). It is important to consider the dilution of the remedy since many (but not all) homeopathic remedies are diluted to such an extent that no molecules of the active substance remain in the preparation. As a result, effects arising from pharmacological or toxicological mechanisms are generally unlikely (10). However adverse effects have been reported where products have been labelled as homeopathic but may actually be herbal due to inadequate dilution (11), and where there is combination with other non-homeopathic constituents (8) or alcohol (12, 13). Some individuals may experience sensitivity to the lactose in the tablet base of the remedy and need to use a sucrose-based carrier or liquid instead (5). Although the overall risk of homeopathic remedies causing an adverse effect appears to be low, undiagnosed illness or self administration of inappropriate medication could cause harm to an individual due to failure to seek timely professional healthcare advice.

### Aggravation

It has been suggested that in about 10% of chronic cases the patient’s condition may be exacerbated within 2-5 days of taking a new homeopathic remedy (5). This reaction is called an aggravation. If an individual experiences an aggravation it is recommended that the remedy is stopped until the symptoms subside after which in some cases the remedy may be restarted at a lower frequency (5). Some homeopathic trials distinguish between what is considered an aggravation and an adverse event and this could partly explain the reporting rates of adverse events from homeopathic studies. A 2003 systematic review by Grabia and Ernst found no clear evidence to support the existence of homeopathic aggravations (14).

### Regulation

Homeopathic remedies that have been registered under the Simplified Scheme (1992) or the National Rules for Homeopathic Products Regulations (2006) have met specific quality and safety standards (15). The National Rules Scheme (but not the Simplified Scheme) allows for products to be licensed with indications, but the indications for these products are limited to minor symptoms/conditions that can usually be relieved or treated without the supervision or intervention of a doctor (15). Homeopathic medicines that were on the market in 1971 (when the Medicines Act was implemented) were given a Product Licence of Right with an indication, in some cases for a serious condition. The MHRA is now encouraging companies to transfer homeopathic medicines with a Product Licence of Right to either the National Rules or the Simplified Scheme (15).

## Summary

* The principles on which homeopathy is based are very different to conventional medical beliefs. Two theories central to homeopathy are *like cures like* and *the more dilute a preparation is the more potent it is*.
* Homeopathic remedies that have been registered under the Simplified Scheme (1992) or the National Rules for Homeopathic Products Regulations (2006) have met specific quality and safety standards.
* It would not be anticipated that there would be any interaction between homeopathic remedies and conventional medicines based on conventional beliefs. However the strength of the homeopathic remedy should be taken into consideration.
* Adverse effects of homeopathic remedies have been reported including allergic reactions and ingestion of toxic substances.
* Although the risk of homeopathic remedies causing an adverse effect appears to be low, undiagnosed illness or self administration of inappropriate medication could cause harm to an individual due to failure to seek timely professional healthcare advice.

LimitationsThis Q&A does not consider the efficacy of homeopathic remedies. Readers should consult other sources of information for advice on this matter. Only basic background information about homeopathy is provided above. If you require further information please contact your local Medicines Information Centre in the first instance. Complex enquiries can be referred to the Welsh Medicines Information Centre, the specialist Medicines Information centre for complementary medicine (via your local Medicines Information Centre), if necessary. To answer enquiries about homeopathic remedies, it is essential to know the dilution or strength of the remedy.

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## Quality Assurance

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### Search strategy

1. In-house data (homeopath\* OR homoeopath\*)
2. NeLM (for previous versions) (homeopathy or homoeopathy)
3. NICE Evidence (from 2013) (homeopathy)
4. Pharmline (for previous versions) (homeopathy)
5. Micromedex (homeopathy or homoeopathy)
6. IDIS (for previous versions) (homeopathic preparations, homeopathic preparations and descriptors side ef, drug combination)
7. PubMed (homeopathy [Majr]; homeopathy and adverse effect or drug interaction)
8. Embase (\*homeopathy. Limit = English language; exp homeopathic agent/ae; exp homeopathic agent/it)
9. Cochrane (homeopathy or homoeopathy )
10. Natural Medicines Comprehensive database (homeopathy)
11. SPS (from 2017) (homeopathy/homoeopathy/homeopath\*/homoeopath\*)