

Handling questions about herbal medicines (or dietary supplements) and conventional medicines

Scope

To ensure that when patients and/or healthcare professionals request information and advice regarding the risk of interactions between complementary and alternative medicines (CAM) and conventional medicines:

- The appropriate background questions are asked regarding the patient's medical history and drug history, in order to ascertain whether the question can be answered in the first instance.
- The CAM and interaction data are researched using [UKMi recommended resources](#).
- The answer given includes the rationale behind the advice and the caveats around the use of CAM with conventional medicines.

This will ensure a standardised approach, regardless of which resources are available.

This guidance has been separated into two parts. Part A is aimed at healthcare professionals in general. Part B has additional information aimed at medicines information (MI) staff. This document aims to assist healthcare professionals in providing safe, effective and timely answers. A useful flow diagram is given in the Appendices. **This guidance only covers interaction enquiries.**

Background

Increasingly, patients and healthcare professionals are faced with concerns about interactions between CAM and conventional medicines. Researching these questions can take a substantial amount of time if appropriate considerations and discussions do not take place initially.

CAM are a group of diverse medical and health care systems, practices and products that are not currently considered to be part of conventional medicine(1). CAM that healthcare professionals are likely to come across with regards to drug interactions include herbal medicines, dietary supplements, and homeopathic preparations. The lack of published data regarding an interaction does not imply that the combination is 'safe'. Most published evidence will relate to one CAM ingredient interacting with one conventional medication. This is unlikely to mimic real life situations due to the nature of many CAMS being available in multi-ingredient preparations, and patients usually being on multiple conventional therapies with several underlying conditions. There is therefore a need for patients and health care professionals to better understand the implications of these interactions.

Healthcare professionals who frequently need to answer questions about interactions between CAM and conventional medicines should complete the tutorial on alternative medicines on the [Medicines Learning Portal](#) which focuses on herbal and homeopathic products, and dietary supplements. For an overview of the use of supplements, there is an NHS Choices document ([Supplements: Who needs them?](#)).

PART A: General Guidance for all Healthcare professionals

The patient

Take a full drug and medical history. Include prescription medication, over-the-counter (OTC) and internet purchased items, and all herbal/complementary products and supplements. Consult your local guidance on medication history taking. Patients taking multiple herbal medicines and dietary supplements may be at risk of adverse effects from polypharmacy, e.g. overdose, synergistic side effects.

Table 1 gives **examples** of high-risk patients or high-risk medications where patients should be discouraged from taking CAM due to the theoretical risk of adverse outcomes. The lists are not intended to be exhaustive or to suggest contraindication to use of CAM, but more to raise awareness and identify patients who may need additional counselling or review regarding their CAM use. Patients may also have co-morbidities which need to be taken into account.

Table 1: Examples of possible high-risk patients and high-risk medications (2,3)

Example high-risk patients	Example high-risk medications
Breast feeding	Anticoagulants (e.g. warfarin)
Cancer	Anti-epileptics
Children	Antiretrovirals
Elderly/frail	Aspirin and antiplatelets
Epilepsy	Cardiac medications
G6PD deficient	Chemotherapy
Hepatic impairment	Cytochrome P450 interacting medications
HIV	Hypoglycaemics (insulin)
Multi-morbidity	Immunosuppressants
Polypharmacy	Narrow therapeutic window (e.g. digoxin)
Pregnant	
Psychiatric disorders	
Renal impairment	
Surgery—elective or emergency	

The product

By obtaining information about the product and understanding the patient's circumstances, you may decide at this point that it would be safer if the patient did not take any CAM and advise against the CAM purchase, or request the CAM be stopped and medical attention sought. Such situations may arise if the CAM is on the MHRA's [banned and restricted herbal ingredients list](#) or the patient has started experiencing serious adverse effects since starting the CAM. Report any products suspected of causing adverse effects via a [yellow card](#).

CAM with a high risk of adverse effect or interactions should be avoided or used with caution. Table 2 highlights some well-known high-risk CAM and their risks when taken with conventional medicines.

Table 2: Examples of CAM associated with a high-risk of adverse effects or drug interactions (this list is not exhaustive) (3,4)

High-Risk CAM	Issue
Black Cohosh	Linked to rare cases of liver damage, including jaundice.
Co-enzyme Q10	Decreases effects of anticoagulants.
Cranberry juice	Increases effects of anticoagulants.
Echinacea	May affect hepatic metabolism of conventional medicines.
Evening primrose oil	May increase the risk of seizures in patients with a low seizure threshold.
Feverfew	Not to be used during pregnancy since it can cause uterine contractions. May increase the effects of antiplatelets.
Fufang Lu Hui Jiaonang	Often contains high levels of mercury, which can cause kidney damage.
Garlic	May increase the effects of antiplatelets.
Gingko biloba	Can cause bleeding; affects the efficacy of HIV medications
Ginseng	Can affect diabetic medication.
Grapefruit juice	Enhances the effects of cardiac medication such as calcium channel blockers.
Kava	Can cause liver toxicity.
Polygonum multiflorum root tuber	Suspected of causing liver diseases such as hepatitis and jaundice.
Saw palmetto	May affect oral contraceptive efficacy.
St John's Wort	Multiple interactions with conventional medicines.

Questions to consider regarding the product

- **What details about the product(s) do they have?**
 Manufacturer, brand name, product website, supplier, and formulation, for example.
- **Did someone recommend the product?**
 If yes, who? Is this person qualified to make recommendations?
- **Have they purchased the product?**
 If yes, which one and from where? If from the Internet then it may be useful to signpost them to NHS advice on the [dangers of buying medicines online](#) or the MHRA [fake medicines](#) campaign in your advice.
- **Have they started taking the product?**
 If yes, how long have they been taking it? Have they experienced any problems? If so, consider [yellow card](#) reporting.

- **What is contained in each product they wish to take?**

This is useful in case there are multiple products with the same brand name but different ingredients. If there are numerous products, it may be helpful for them to send a photo of the ingredients list or the link to the product website.

- **Is the CAM a homeopathic remedy?**

Refer to the Specialist Pharmacy Services review on '[clinical evidence for homeopathy](#)' (2017) following NHS England's decision to stop NHS prescribing of homeopathic remedies. A useful UKMi Medicines Q & A on [considerations when addressing questions about potential adverse effects and drug interactions with homeopathic remedies](#) should also be consulted.

- **Is the CAM a vitamin or mineral supplement dosed near the [Reference Nutrient Intake \(RNI\)](#)?**

Most people do not need a supplement and can get all the vitamins and minerals they need by eating a [balanced diet](#). Essential nutrients such as iron, calcium and vitamin C are required in small amounts. The Department of Health and Social Care (DHSC) recommends certain supplements for some patient groups e.g. folic acid supplements in pregnancy, vitamin A and C supplements in young children. Taking multiple products could exceed the RNI and result in adverse effects in some circumstances.

- **Does the CAM comply with quality standards for safety and manufacturing?**

If the patient still wants to continue with their chosen CAM at this stage then encourage them to look for a [traditional herbal registration](#) (THR) marking on the packaging of herbal products. This means the CAM complies with the same quality standards as for medicines with regard to safety and manufacturing, and information about how and when to use it is provided.

Make the patient aware that (6):

- THR products are intended for conditions that can be self-medicated and do not require medical supervision, such as coughs, colds or general aches and pains.
- Using THR products for more serious conditions could be harmful, especially if it delays seeking medical advice.
- Claims made for THR products are based on traditional usage and not on evidence of the product's effectiveness.
- A THR mark doesn't mean the product is completely safe for everyone to take.

Patients should be advised that they can find THR-registered products at their local health food shop, pharmacy or supermarket. They should be discouraged from purchasing or taking products purchased from non-reputable sources. There are concerns that unregistered products could contain contaminants and adulterants, for example steroids, pesticides, antibiotics, and/or heavy metals (7).

STOP and THINK!

- Is the question within your professional and clinical remit? Do you need to contact your local MI service? MI services are better equipped to deal with questions about drug interactions and the adverse effects of CAM than those about evidence of efficacy.
- Is the CAM product quality in doubt? The risks of obtaining fake, substandard, unlicensed or contaminated medicines are increased by buying medicines online or by mail order from non-reputable sources. Advise the patient to only use products from reputable sources through established supply outlets (which may still include on-line sources).
- Is the patient on a high-risk medication or do they have a high-risk condition? Avoiding the CAM may be the safer option for the patient.
- Will researching the interaction using the available resources change your answer? If not, then further research may not be warranted.

If you are advising caution with the CAM or not to take the CAM for the above-mentioned reasons, then it's likely that you will still advise caution regardless of further research.

PART B: Specific Guidance for MI services

MI services should consider the additional following points:

- The resources you have available. Organisations purchasing resources have to abide by the resource terms and conditions for use. These will often state that copying and sharing data is a breach of licence so external organisations may not be able to share the data directly from their resources.
- Be honest with the enquirer. If you are able to address their question then explain the issues you are likely to come across, e.g. limited access to specialist resources, a lack of published data in humans, no data does not mean it will be safe to combine/take, lack of adverse effects reports.
- If it is appropriate for you to investigate the CAM and conventional medications for interactions, then consider agreeing the list of CAMs you will research alongside the list of conventional medications. Agree a realistic deadline and reply route. You may need to consider researching the high-risk products only in order to produce a timely answer.

The research

Research each CAM against the list of conventional drugs. Start with the high-risk medications (or CAM) and stop when a problem is identified or no data has been found.* Consider the following:

- Is the CAM cautioned or contraindicated with the patient's medical conditions?
- Are there any adverse effects that may be relevant? What about a synergistic effect?
- Are there any known interactions?
- Cross check if the conventional medication has any effect on, or is metabolised by, cytochrome P450 systems (or transport proteins) and whether the CAM could affect these.

Complete the research for one CAM at a time and decide for each if the patient should start/continue/stop it. If one ingredient in a CAM product cannot be taken by the patient, then the whole product cannot be taken so there is no need to investigate the other CAM product ingredients further.

A list of UKMi resources for questions about CAM can be found in the [recommended resource lists](#). Not all MI centres will have access to *all* resources. There are also a number of relevant [UKMi Q&A's](#).

UKMi recommends that at least two resources be consulted for any MI enquiry and previous work has suggested that 3–4 resources would suffice for general drug-drug interaction enquiries*. After 3-4 resources have been consulted, and if no information has been found, it is reasonable to conclude that there is no evidence available—further research is unnecessary. It is also generally not expected that CAM interaction questions will require a search of the published primary literature. An exception to this may be where a patient has already suffered an interaction or adverse effect.

*** Those with access to [Natural Medicines Database](#) may find that this resource alone is sufficient to answer CAM interaction questions and use of further resources is not usually necessary.**

The Answer and Disclaimer

If you are going to advise that the patient stop taking the CAM, consider whether discontinuation will affect their conventional medication or control of their medical condition. For example, stopping a CAM that affects insulin control may result in the patient needing to adjust their insulin use or monitor their blood glucose more regularly.

Switching from CAM to a similar conventional medication may require additional advice. For example, St John's Wort being changed to an antidepressant may require a washout period.

During the course of the enquiry, you may come to one of a number of conclusions based on your findings:

Example Answer	Example Reasons
<p>Do not continue the CAM and consider making an appointment to see your GP (in the case of the enquirer being a patient and taking the CAM).</p>	<p>Adverse effects experienced from conventional medication.</p> <p>Poor disease control detected.</p> <p>Adverse effects from CAM experienced which require further investigation (complete a yellow card report).</p> <p>CAM is on MHRA banned herbal ingredient list.</p>
<p>Do not take the CAM product (where the patient has not started the CAM).</p>	<p>Patient is at high risk of adverse effect.</p> <p>Patient is on a high risk conventional medicine.</p> <p>Purchase made / will be made from a non-reputable source and its quality, and therefore safety, is in doubt.</p> <p>CAM is on MHRA banned herbal ingredient list.</p> <p>There is doubt about the quality of the CAM product and therefore its safety.</p> <p>An interaction has been suggested with at least one high risk conventional medication.</p>
<p>CAM can be taken with additional monitoring by patient / healthcare professional for any adverse effects or changes in symptoms.</p>	<p>Patient:</p> <ul style="list-style-type: none"> • Does not have a high-risk disease state (see table 1 for examples) • Is not taking any high-risk conventional medications (see table 1 for examples) • Is not taking any high-risk CAM product (see table 2 for examples) • Has access to a quality approved CAM product.

If you are advising patients not to take a product then explain why or state any concerns/advice you have if they do decide to take the product, e.g. closer monitoring of blood pressure.

It is useful to have a standard disclaimer for questions regarding CAM. MI services with MiDatabank can pre-set special fields in the answer screen which could contain one for written and one for verbal CAM responses. An example of a written disclaimer is given below.

CAM interactions example disclaimer:

Most complementary medicines are unlicensed in the UK and their quality is not subject to the strict regulations that apply to conventional medicines. There is limited and incomplete published evidence in humans regarding the efficacy, safety, side-effects and interactions of CAMS and therefore such products cannot be recommended as safe to use. We would advise all patients taking dietary supplements and/or herbal products to:

- Avoid products which are not regulated under the MHRAs traditional herbal medicines registration scheme (if it is, it will hold a product license (PL) or THR number on its label).
- Keep to the same one reputable product since switching brands may result in switching ingredients or quantities.
- Take the product as per the instructions on the label. Do not take multiple products containing the same or similar ingredients.
- Report any side effects that may be associated with the product(s) to the Medicines & Healthcare products Regulatory Agency (MHRA) via <https://yellowcard.mhra.gov.uk/>. (Including any counterfeit or fake products).
- Keep an up-to-date list of all the products and medicines (from prescribed to purchased) being taken to inform healthcare professionals.

References

1. Mason P. Why should pharmacy students be interested in complementary and alternative medicine? Tomorrow's Pharmacist 2005;68. Access at: <https://www.pharmaceutical-journal.com/careers-and-jobs/careers-and-jobs/career-feature/why-should-pharmacy-students-be-interested-in-complementary-and-alternative-medicine-/10018088.article?firstPass=false>
2. Mayo Clinic Staff. Herbal supplements: What to know before you buy. Nutrition and Healthy Eating 2017. Access at: <https://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/herbal-supplements/art-20046714>
3. NICE. Drug interactions associated with herbal remedies and dietary supplements. Eyes on Evidence 2013. Access at: <https://arms.evidence.nhs.uk/resources/hub/1000457/attachment>.
4. Drugs.Com.18 Herbal Supplements with Risky Drug Interactions. Access at: www.drugs.com/slideshow/herb-drug-interactions-1069
5. Bailey A. Considerations when addressing questions about potential for adverse effects and drug interactions with homeopathic remedies. Specialist Pharmacy Services. November 2019. Access at: <https://www.sps.nhs.uk/articles/considerations-when-addressing-questions-about-potential-for-adverse-effects-and-drug-interactions-with-homeopathic-remedies/>
6. NHS. Herbal Medicines. Access at: <https://www.nhs.uk/conditions/herbal-medicines/>.
7. Edwards S, Lawrence MJ, Cable C et al. Where do herbal medicines belong? Part 2 — herbal medicines reappraised. Pharmaceutical Journal 2012; 288. Access at: <https://www.pharmaceutical-journal.com/news-and-analysis/where-do-herbal-medicines-belong-part-2-herbal-medicines-reappraised/11101396.article>

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Appendices

Appendix 1: List of hyperlinks mentioned with full URL (in alphabetical order)

Hyperlink	URL
Balanced diet	https://www.nhs.uk/live-well/eat-well/
Banned and restricted herbal ingredients	https://www.gov.uk/government/publications/list-of-banned-or-restricted-herbal-ingredients-for-medicinal-use
Clinical evidence for homeopathy	https://www.england.nhs.uk/wp-content/uploads/2017/11/sps-homeopathy.pdf
Considerations when addressing questions about potential adverse effects and drug interactions with homeopathic remedies	https://www.sps.nhs.uk/articles/considerations-when-addressing-questions-about-potential-for-adverse-effects-and-drug-interactions-with-homeopathic-remedies/
Dangers of buying medicines online	https://www.nhs.uk/using-the-nhs/nhs-services/pharmacies/dangers-of-buying-medicines-online/
Fake medicines	https://fakemedics.campaign.gov.uk/
Medicines Learning Portal	https://www.medicineslearningportal.org/2015/07/alternative-medicine.html
Medicines Q&A's	https://www.sps.nhs.uk/
Natural Medicines Database	https://naturalmedicines.therapeuticresearch.com/
Reference Nutrient Intake	https://www.nutrition.org.uk/
Supplements: Who needs them?	https://www.nhs.uk/news/2011/05May/Documents/BtH_supplements.pdf
Traditional herbal registration	https://www.gov.uk/government/publications/herbal-medicines-granted-a-traditional-herbal-registration-thr
UKMi recommended resources	https://www.sps.nhs.uk/articles/ukmi-recommended-resource-lists-and-tools/
Yellow Card	https://yellowcard.mhra.gov.uk/

Appendix 2: Flow chart to assist in decision making with regards to questions about interactions involving CAM and conventional medications

