

VERSION 2.0

CLINICAL ISSUES

Complementary therapies

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ABBREVIATIONS

CFC	chlorofluorocarbon	LTRA	leukotriene receptor antagonist
COPD	chronic obstructive pulmonary disease	MBS	Medical Benefits Scheme
COX	cyclo-oxygenase	NHMRC	National Health and Medical Research Council
DXA	dual-energy X-ray absorptiometry	NIPPV	non-invasive positive pressure ventilation
ED	emergency department	NSAIDs	nonsteroidal anti-inflammatory drugs
EIB	exercise-induced bronchoconstriction	OCS	oral corticosteroids
FEV₁	forced expiratory volume over one second	OSA	obstructive sleep apnoea
FEV₆	forced expiratory volume over six seconds	PaCO	carbon dioxide partial pressure on blood gas analysis
FSANZ	Food Standards Australia and New Zealand	PaO	oxygen partial pressure on blood gas analysis
FVC	forced vital capacity	PBS	Pharmaceutical Benefits Scheme
GORD	gastro-oesophageal reflux disease	PEF	peak expiratory flow
HFA	formulated with hydrofluoroalkane propellant	pMDI	pressurised metered-dose inhaler or 'puffer'
ICS	inhaled corticosteroid	PPE	personal protective equipment
ICU	intensive care unit	SABA	short-acting beta ₂ -adrenergic receptor agonist
IgE	Immunoglobulin E	SAMA	short-acting muscarinic antagonist
IL	interleukin	SaO₂	oxygen saturation
IU	international units	SpO₂	peripheral capillary oxygen saturation measured by pulse oximetry
IV	intravenous	TGA	Therapeutic Goods Administration
LABA	long-acting beta ₂ -adrenergic receptor agonist		
LAMA	long-acting muscarinic antagonist		

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Warning patients about alternative diagnostic practices

Recommendations

If patients are likely to visit practitioners who offer alternative diagnostic tests, explain that none of the following alternative diagnostic practices should be used in the diagnosis of asthma or allergies:

- cytotoxic testing (Bryans' or Alcat testing)
- hair analysis
- iridology
- kinesiology
- oral provocation and neutralisation
- pulse testing
- radionics (psionic medicine, dowsing)
- tests for 'dysbiosis'
- vega testing (electrodermal testing)
- VoiceBio.

 *How this recommendation was developed*

Adapted from existing guidance

Based on reliable clinical practice guideline(s) or position statement(s):

- Australasian Society of Clinical Immunology and Allergy, 2007¹

More information

Alternative diagnostic tests for asthma and allergy

The Australasian Society of Clinical Immunology and Allergy (ASCI) recommends against the following techniques for the diagnosis and treatment of allergy, asthma and immune disorders because they have not been shown to be reliable or accurate:¹

- cytotoxic testing (Bryans' or Alcat testing)
- hair analysis
- iridology
- kinesiology
- oral provocation and neutralisation
- pulse testing
- radionics (psionic medicine, dowsing)
- tests for 'dysbiosis'
- vega testing (electrodermal testing)
- VoiceBio.

ASCI also recommends against the use of conventional tests in the investigation of allergies in inappropriate clinical situations, or where the results are presented in a manner amenable to misinterpretation, e.g.:¹

- food-specific IgE (RAST, ImmunoCap testing)
- food-specific IgG, IgG4
- lymphocyte subset analysis.

► Go to: [Unorthodox Techniques for the Diagnosis and Treatment of Allergy, Asthma and Immune Disorders, ASCIA Position Statement](#)

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Providing information about the efficacy of complementary therapies

Recommendations

If patients are interested in using complementary therapies, provide reliable information about evidence for efficacy or lack of efficacy to help them make a well-informed decision. Explain that very few complementary therapies have been shown to be effective in asthma.

Table. Summary of efficacy evidence for complementary therapies in the treatment of asthma

Please view and print this figure separately: <http://www.astmahandbook.org.au/table/show/78>

How this recommendation was developed

Consensus

Based on clinical experience and expert opinion (informed by evidence, where available).

Explain to patients that an AUST L label does not indicate that a product is effective.

How this recommendation was developed

Consensus

Based on clinical experience and expert opinion (informed by evidence, where available).

More information

Discussing complementary medicines with patients

For more information about discussing complementary medicines with patients and monitoring their effects, refer to National Asthma Council Australia's information paper for health professionals *Asthma and complementary therapies*.¹

► Go to: National Asthma Council Australia's [Asthma and complementary therapies](#) information paper

Regulation of complementary medicines and therapies (AUST L & AUST R)

Under the *Therapeutic Goods Act 1989* (Commonwealth), all products in Australia for which therapeutic claims are made must be on the Australian Register of Therapeutic Goods and must carry either an Australian Listing (AUST L) or Australian Registration (AUST R) number on their label.

An AUST L number issued by the Therapeutic Goods Administration indicates that the product ingredients have been assessed for quality and safety, and have not been associated with major toxicity or side effects. AUST L listing does not indicate that a product is effective; AUST L numbered products do not undergo efficacy assessment.

An AUST R number indicates that a medicine is registered by the Therapeutic Goods Administration and has been assessed for safety, quality and effectiveness. Registered medicines include all prescription-only medicines and many over-the-counter medicines.

A 'complementary medicine' is defined in the Australian Therapeutic Goods Regulations 1990 as a therapeutic good consisting principally of one or more designated active ingredients (listed in Schedule 14 of the Regulations), each of which has a clearly established identity and traditional use.² Complementary medicines regulated under the *Therapeutic Goods Act 1989* include medicinal products containing herbs, vitamins, minerals, nutritional supplements, homoeopathic and certain aromatherapy preparations.²

State governments regulate practitioners of complementary therapies. This means that the laws differ between states.

Efficacy of physical therapies and practices

Acupuncture

A systematic review reported that acupuncture had no statistically significant or clinically relevant effects, compared with sham acupuncture, and that the quality of evidence was generally poor.³ Other systematic reviews have concluded that clinical evidence does not support the use of acupuncture in asthma,⁴ and that there is insufficient and poor quality evidence on which to judge efficacy.⁵

Buteyko technique (breathing exercise)

Buteyko breathing technique has been reported to improve quality of life in people with asthma and may reduce reliever requirement,⁶ but control groups in clinical trials have not been instructed to deliberately reduce reliever use (a component of Buteyko breathing technique). It has not been shown to improve objective measures of lung function.

Chiropractic

Chiropractic spinal manipulation has not been shown to improve asthma in sham manipulation-controlled randomised clinical trials.^{7,8}

Efficacy of 'natural' products and medicines

Caffeine

Caffeine improves lung function in people with asthma for up to 4 hours.⁹ The main implication of this finding is that drinking coffee before a spirometry test may give a misleading result.

A meta-analysis found that it was not possible to conclude whether caffeine improves asthma symptoms.⁹ Some small studies have reported that caffeine improves exercise-induced bronchoconstriction.¹ The dose needed to improve symptoms may be so high that it is associated with intolerable adverse effects (e.g. agitation, tremor, gastrointestinal upset, increased heart rate and blood pressure).⁹

Cineole

Cineole (the main constituent of eucalyptus oil) may improve lung function, asthma symptoms, and quality of life when taken orally.¹⁰ However, there is insufficient evidence for its safety with systemic use.

Fish oil

Fish oil supplementation does not appear to improve asthma control.¹¹

Herbal medicines

Overall, clinical trials have not clearly shown that herbal medicines benefit patients with asthma. Most clinical trials have involved small sample sizes, short duration, and poor methodology.¹² Single studies of *Boswellia*, *Mai-Men-Dong-Tang*, *Pycnogenol*, *Jia-Wei-Si-Jun-Zi-Tang* and *Tylophora indica* have reported improved lung function, and a study of eucalyptol reported reduced daily oral steroid dosage.¹² Overall, reported improvements in symptoms have not been strongly supported by objective changes.¹²

The *Ephedra sinica* (ma huang) plant, which contains ephedrine, has been used to treat asthma in traditional Chinese medicine.¹³ Ephedra is associated with clinical serious adverse effects, including heart attack, stroke, seizure, and death.¹⁴ The sale of Ephedra is prohibited in Australia.¹⁵

Ginkgo biloba has been reported to improve asthma symptoms, but has been associated with adverse effects including headache, nausea, dizziness, palpitations and allergic skin reactions.¹

Homeopathy

Homeopathy has not been shown to improve asthma symptoms.¹⁶ Randomised placebo-controlled clinical trials have reported inconsistent effects on lung function.¹⁶ However, standardised homeopathy protocols used in randomised clinical trials are unlikely to be representative of homeopathic treatment used in practice,¹⁶ which is often individualised.

Magnesium (oral supplements)

Overall, evidence from randomised controlled clinical trials does not support routine use of long-term oral magnesium supplementation in the treatment of asthma.¹⁷

- A placebo-controlled clinical trial reported improvements in lung function and quality of life, compared with baseline, in adults with asthma who took oral magnesium supplements for 6.5 months. The intervention group showed improvement in quality of life and asthma control compared with baseline, but the study did not report comparisons with placebo.¹⁸
- Another small clinical trial in adults reported that magnesium supplementation was associated with improvement in symptom scores, compared with placebo.¹⁹
- Another clinical trial in adults with asthma reported no benefit from 16 weeks' oral magnesium supplementation, compared with

placebo.²⁰

- A small clinical trial in children reported that 2 months' treatment with oral magnesium was associated with reduced flare-ups compared with placebo, but did not affect lung function.²¹
- Another small clinical trial in children reported that 12 weeks' treatment with oral magnesium reduced reliever use, compared with placebo.²²

Note: IV and nebulised magnesium sulfate may be used in the management of acute asthma.

► See: [Managing acute asthma in clinical settings](#)

Vitamin D

A single small randomised controlled trial in children with newly diagnosed asthma who were sensitised only to house dust mite, reported that Vitamin D supplementation reduced the risk of asthma flare-ups triggered by acute respiratory infections.²³ There is not enough high-quality evidence to recommend this as a routine treatment in Australian children.

Efficacy of 'mind-and-body' therapies

Relaxation techniques

Overall, relaxation techniques do not appear to be effective in the management of asthma.²⁴

Meditation

Few well-designed studies have assessed meditation,²⁴ and available clinical literature does not clearly separate its effects from those of other relaxation techniques.¹ One randomised controlled trial reported that mindfulness meditation improved quality of life in adults, compared with asthma education.²⁵

Efficacy of dietary restrictions

A low-sodium diet does not appear to improve asthma control.²⁶ Some small clinical trials have suggested that, in people with exercise-induced bronchoconstriction, a low-sodium diet might improve lung function after exercise, but the clinical importance of this is unknown.²⁶

Overall, evidence from studies assessing links between the common food additive tartrazine (FSANZ number 102) does not show that tartrazine worsens asthma, or that avoiding tartrazine improves asthma for people without known sensitivity to tartrazine.²⁷

There is not enough evidence to determine whether or not avoidance of monosodium glutamate (FSANZ number 621) affects asthma control.²⁸

Eliminating dairy foods is not an effective strategy for improving asthma control in people without proven allergies to dairy foods, and could impair nutrition, growth or bone density.¹ Food allergies rarely trigger asthma.²⁹

Table. Effects of dietary strategies in asthma management

Please view and print this figure separately: <http://www.astmahandbook.org.au/table/show/56>

► Go to: National Asthma Council Australia information paper [Asthma and Complementary Therapies](#)

Go to: NHMRC's [Australian Dietary Guidelines](#)

Go to: Food Standards Australia and New Zealand [list of food additives](#)

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Providing information about the safety of complementary therapies

Recommendations

For patients who wish to use complementary therapies for asthma:

- provide information about potential adverse effects or interactions with pharmaceutical medicines
- advise them to avoid products that are not labelled with an AUST L or AUST R number.

Note: AUST L listing does not indicate that a product is effective; AUST L numbered products do not undergo efficacy assessment.

How this recommendation was developed

Consensus

Based on clinical experience and expert opinion (informed by evidence, where available).

Advise patients that some complementary medicines have caused serious allergic reactions in some patients. These include:

- Echinacea
- bee products (pollen, propolis, royal jelly)
- garlic supplements.

How this recommendation was developed

Consensus

Based on clinical experience and expert opinion (informed by evidence, where available), with particular reference to the following source(s):

- Bielory, 2004¹
- Bullock *et al.* 1994²
- Katayama *et al.* 2008³
- Leung *et al.* 1995⁴
- Moses and McGuire, 2010⁵
- Mullins and Heddle, 2002⁶
- National Asthma Council Australia, 2009⁷
- Pérez-Pimiento *et al.* 1999⁸
- Thien *et al.* 1993⁹

Advise patients that some complementary therapies have caused other serious adverse effects in some patients. These include:

- Ma huang (*Ephedra sinica*)
- dietary elimination.

Advise patients not to try dietary elimination for themselves or their children, except under medical supervision of an allergist or accredited practising dietitian.

Note: The sale of *Ephedra* is prohibited in Australia.


How this recommendation was developed

Consensus

Based on clinical experience and expert opinion (informed by evidence, where available), with particular reference to the following source(s):

- Department of Health and Ageing, 2007¹⁰
- National Drug Research Institute and Australian Institute of Criminology, 2007¹¹
- Schulman, 2003¹²


Advise patients that they should seek medical advice immediately if they suspect that a complementary medicine is aggravating their asthma symptoms or causing side effects.

 *How this recommendation was developed*

Consensus

Based on clinical experience and expert opinion (informed by evidence, where available).

After adverse effects have been managed, advise the person to report the reaction to the Adverse Medicines Event Line (1300 134 237).

 *How this recommendation was developed*

Consensus

Based on clinical experience and expert opinion (informed by evidence, where available).

More information

Regulation of complementary medicines and therapies (AUST L & AUST R)

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An AUST R number indicates that a medicine is registered by the Therapeutic Goods Administration and has been assessed for safety, quality and effectiveness. Registered medicines include all prescription-only medicines and many over-the-counter medicines.

A 'complementary medicine' is defined in the Australian Therapeutic Goods Regulations 1990 as a therapeutic good consisting principally of one or more designated active ingredients (listed in Schedule 14 of the Regulations), each of which has a clearly established identity and traditional use.¹³ Complementary medicines regulated under the *Therapeutic Goods Act 1989* include medicinal products containing herbs, vitamins, minerals, nutritional supplements, homoeopathic and certain aromatherapy preparations.¹³

State governments regulate practitioners of complementary therapies. This means that the laws differ between states.

Adverse effects of complementary medicines

Drug–drug interactions or overdosage of active ingredients may occur when complementary medicines are used with other medicines.⁵

Some complementary and alternative medicines may trigger an allergic response or exacerbate asthma. Clinically serious allergic reactions have been documented for:

- Echinacea⁶
- bee products (pollen, propolis, royal jelly)^{2, 3, 4, 9}
- garlic supplements.^{1, 8}

People with aspirin-exacerbated respiratory disease may be at risk if they use products that contain salicylates (e.g. willowbark) or salicin (e.g. meadowsweet).

Some complementary therapies may cause other serious adverse effects in some patients. These include:

- Ma huang (*Ephedra sinica*)¹²
- dietary elimination without medical supervision.

► Go to: National Asthma Council Australia's [Pain relievers and asthma: A quick reference guide](#)
Go to: National Asthma Council Australia's [Asthma and complementary therapies](#) information paper


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General considerations for patients who wish to use complementary therapies

Recommendations

Ask all patients whether they use complementary therapies.


 *How this recommendation was developed*

Consensus

Based on clinical experience and expert opinion (informed by evidence, where available).

If the person is using, or is interested in using, complementary therapies, encourage them to discuss this by showing a non-judgemental attitude. Ask the person (all of):


- the reason for their choice
- what benefit they hope to get from it
- what they know about the safety of the therapy.

 *How this recommendation was developed*

Consensus

Based on clinical experience and expert opinion (informed by evidence, where available).

Advise patients that any change in regular (maintenance) asthma treatment – whether with conventional or complementary therapies – should be considered as a trial to see if it achieves better control or reduces their need for reliever.

 *How this recommendation was developed*

Consensus

Based on clinical experience and expert opinion (informed by evidence, where available).

When trialling any change in maintenance treatment, choose a suitable time to conduct the trial (e.g. not during holiday periods, not when the patient has had a recent respiratory infection). If possible, keep other asthma treatment constant.

Follow the steps for conducting a treatment trial.


Table. Steps for conducting a treatment trial

1. Document baseline lung function.
2. Document baseline asthma control using a validated standardised tool such as the Asthma Score.
3. Discuss treatment goals and potential adverse effects with the person.
4. Run treatment trial for agreed period (e.g. 4–8 weeks, depending on the treatment and clinical circumstances, including urgency).
5. At an agreed interval, measure asthma control and lung function again and document any adverse effects.
6. If asthma control has not improved despite correct inhaler technique and good adherence, resume previous treatment

and consider referral for specialist consultation.

► See: [Asthma Score \(Asthma Control Test\)](#)

Asset ID: 36

 *How this recommendation was developed*

Consensus

Based on clinical experience and expert opinion (informed by evidence, where available).

More information

Discussing complementary medicines with patients

For more information about discussing complementary medicines with patients and monitoring their effects, refer to National Asthma Council Australia's information paper for health professionals *Asthma and complementary therapies*.¹

► Go to: National Asthma Council Australia's [Asthma and complementary therapies](#) information paper

References

1. National Asthma Council Australia. *Asthma and complementary therapies*. National Asthma Council Australia, Melbourne, 2012. Available from: <http://www.nationalasthma.org.au/publication/asthma-complementary-therapies-hp>

Complementary therapies and asthma

Overview

In this handbook, 'complementary and alternative therapies' refers to the range of medical and healthcare practices and products that are not generally considered part of conventional medicine provided by doctors and allied health professionals in Australia.¹ They include 'natural' products, 'mind-and-body' therapies, dietary supplements or restrictions, and physical therapies.

Healthcare professionals need to be aware of complementary and alternative therapies so they can:

- discuss the risks and benefits with patients who are interested in using them
- advise on safety issues
- advise on the evidence for their efficacy
- warn against inappropriate diagnostic practices.

Table. Summary of efficacy evidence for complementary therapies in the treatment of asthma

Please view and print this figure separately: <http://www.asthmahandbook.org.au/table/show/78>

The use of these therapies in place of, or to the exclusion of, conventional therapies is not an appropriate approach to asthma management. The use of unproven complementary and alternative therapies can pose a risk to patients' health directly (e.g. through adverse effects) or indirectly (e.g. when patients defer seeking medical advice or when patients use a complementary therapy instead of an effective asthma medicine).

In this section

General considerations

General considerations for patients who wish to use complementary therapies

<http://www.asthmahandbook.org.au/clinical-issues/complementary-therapies/general-considerations>

Safety

Providing information about the safety of complementary therapies

<http://www.asthmahandbook.org.au/clinical-issues/complementary-therapies/safety>

Efficacy

Providing information about the efficacy of complementary therapies

<http://www.asthmahandbook.org.au/clinical-issues/complementary-therapies/efficacy>

Diagnostics

Warning patients against alternative diagnostic practices

<http://www.asthmahandbook.org.au/clinical-issues/complementary-therapies/diagnostics>

References

1. National Center for Complementary and Alternative Medicine USA. *What is complementary and alternative medicine?* NCCAM Pub No. D347. Updated May 2013. National Center for Complementary and Alternative Medicine, 2008. Available from: <http://nccam.nih.gov/health/whatiscom>