CAM Cancer | Complementary and Alternative Medicine for Cancer

Manual

By the CAM Cancer Collaboration

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Editorial Process

Introduction

Complementary and Alternative Medicine (CAM) is commonly used by cancer patients. Reliable information about its safety and efficacy is therefore important. CAM Cancer supports healthcare professionals by providing evidence-based summaries on CAM therapies in cancer care. Established with EU European Commission funding between 2002 and 2005, CAM Cancer has been managed by NAFKAM at UiT The Arctic University of Norway since 2007.

In an era of AI-generated content, CAM Cancer remains committed to the principles of quality health information defined as:

"Information that is scientifically sound, accessible, clear, and understandable, and that supports appropriate decision-making to improve health outcomes" (*Nature Medicine* Commission on Quality Health Information for All)

Our editorial team, authors and reviewers ensure that the information complies with these principles and aligns with the E-E-A-T framework for search engines; a framework based on expertise, experience, authority, and trustworthiness, which is used by human evaluators to assess search result quality.

- **Trustworthiness:** meets the quality criteria of the last version of the Health On the Net Foundation's standards for health online information (HONcode) and received a CEBAM quality label from the Centre of Evidence-based Medicine of Belgium
- **Evidence-based content:** Summaries of scientific studies on CAM in prevention, treatment, palliative care, and supportive care.
- **Wide thematic coverage:** Presentation of a broad range of treatments, from acupuncture to yoga, from Aloe vera to intravenous high-dose vitamin C.
  Access is also possible via symptoms (e.g. fatigue, pain) or outcomes (e.g. survival).
- **Rigorous scientific methodology:** A systematic and transparent approach to searching for, evaluating and synthesizing evidence.
- **Transparency:** fully documented methodology which is published on website together with conflict of interest and use of artificial intelligence policies.
- **Experienced editorial team:** Editorial oversight by an interdisciplinary team and a well-established network of international experts.
- **Open access:** All content is freely accessible on the CAM Cancer website.

Authoring a CAM Cancer summary

Selecting topics and authors

Topic selection is based on safety concerns, patient interest, and prevalence of use.

Authors must have experience in evidence synthesis and writing healthcare information, ideally with a background in CAM and/or cancer care. Authors are appointed on a case-by-case basis and asked to declare any potential conflicts of interest. Once approved, authors follow the instructions in outlined in the writing guidelines.

Authorship and ownership

Each published summary is credited as "written and reviewed by (author names) and the CAM Cancer Collaboration," with full author and reviewer lists available on the website. All summaries and methodological documents remain the property of the CAM Cancer Collaboration.

Writing a CAM Cancer summary

A CAM Cancer summary synthesises the best available evidence on a specific CAM intervention used in cancer prevention, treatment, or management. Evidence is also presented by symptom/outcome or cancer type. To ensure quality and consistency, all summaries must follow the methods described in the writing guidelines.

General guidance for authors

Summaries are written primarily for healthcare professionals. They present the evidence objectively and do not issue any clinical recommendations. The abstract is written in plain language so it can also be understood by the general public.

Literature search

The Scientific Coordinator provides systematic searches prepared by an information specialist (Medline® and the Cochrane Library), which are fully documented to ensure transparency and reproducibility. Authors conduct additional searches for general background and safety information.

Guidelines and templates

Detailed guidance and templates are provided in the following section "Writing Guidelines" below.

Managing the editorial process

Authors submit their completed summary electronically to the Scientific Coordinator by the agreed deadline. The Senior Editor and Responsible Editor then initiate the peer review process. After peer review and any necessary revisions, the final summary is published on the CAM Cancer website.

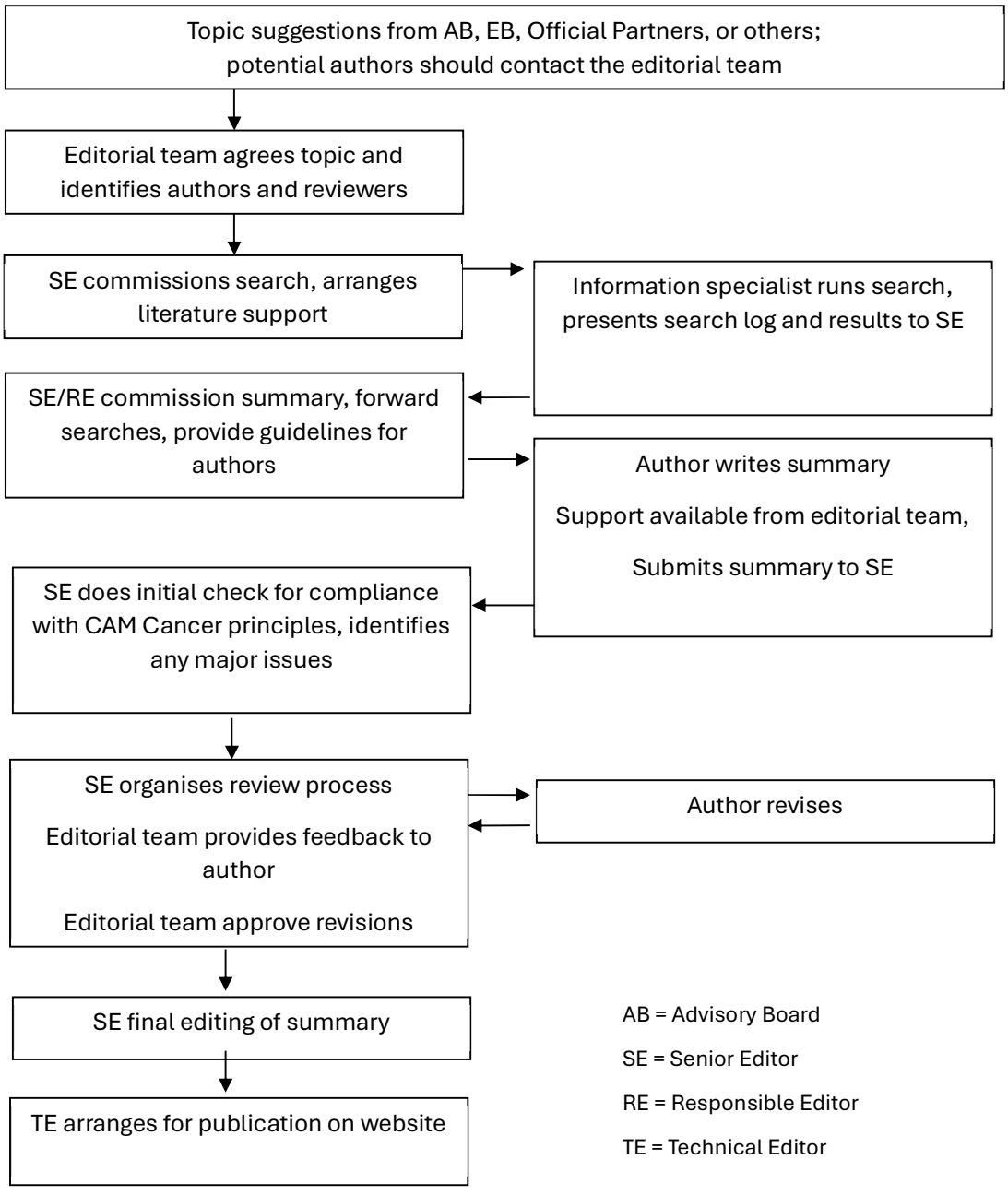
Summaries are updated regularly in consultation with the Scientific Coordinator.

Reviewing a CAM Cancer summary

Reviewers ensure that summaries meet the quality standards outlined in this manual.

- Initial check by the Senior Editor, major issues are addressed before peer review.
- Two independent reviewers evaluate the summary.
- Updates: minor updates reviewed by the editors; major updates undergo full peer review.
- Feedback to the author.
- Following author revision, the final version is approved by the editors and/or reviewers.
- Disagreements are resolved through consensus; if this is not possible, the Senior Editor or Advisory Board make the final decision.

Figure 1: CAM Cancer summary editorial process



Methods

The CAM Cancer methodology provides a structured approach for systematically identifying, appraising, and synthesising the best available evidence on complementary and alternative medicine (CAM) interventions in cancer care. Its primary aim is to present concise summaries and quality assessments of the evidence on safety and efficacy to support informed decision-making.

Please also view our related methodology documents, our policies on artificial intelligence use and conflict of interest and our page on patient and public involvement.

Literature Searches

Searches are run by an information specialist and fully documented in a search log.

Databases

Systematic literature searches are conducted in the following databases:

- MEDLINE (via PubMed)
- Cochrane Library

Search Dates

Update searches are performed from the last documented search date to present.

Search Terms

The search strategy is based on two core concepts:

- The specific CAM intervention (e.g. yoga, green tea, mindfulness)
- Cancer; if deemed necessary, additional targeted searches are conducted for specific outcomes (e.g. quality of life, fatigue, pain).

Study Selection

Study Management

All retrieved references are imported into Rayyan for study management and screening.

Screening and Eligibility

Titles and abstracts are screened using PICO (Population, Intervention, Comparator, Outcomes) and study type criteria.

- Initial screening is conducted by one author.
- If both reviewers agree on the assessment as included or excluded, the included articles are moved to full-text evaluation. Disagreements are resolved through reassessment and discussion.
- Labels for specific outcomes (e.g. pain, fatigue) are added for easier study retrieval.
- Study types are primarily limited to systematic reviews (SRs) or randomized controlled trials (RCTs). If none are available, results from other study types may be considered.
- The decision to restrict by study type is made jointly by two authors.

Full-Text Evaluation

Full texts of potentially relevant studies are assessed for eligibility. In addition to compliance with PICO, only SRs that specify the outcome in question as a primary outcome and are of sufficient quality are included. (see Appendix 1: selecting systematic reviews).

Assessment of Systematic Reviews

- Labels for specific primary outcomes (e.g. pain, fatigue) are finalised for easier study retrieval.
- The methodological quality of SRs is assessed using AMSTAR2 for pairwise metaanalysis or RoB NMA for network metaanalysis (NMA).
- Two authors independently assess review quality.
- Disagreements are resolved by discussion between authors.
- Reasons for exclusion are noted for each study.

Data Collection and Analysis

Process and Tools

- Data are extracted into a standardised table (See Appendix 2: Evidence table)
- Data extraction is supported by AI-assisted methods (See Appendix 3: Prompts for data extraction).
- Extracted data are fully reviewed by one author, with checks performed by a second author.
- The full tables are published on the CAM Cancer website.

Quality Assessment

AMSTAR2 and RoB NMA quality assessments are finalised jointly by both authors.

Evidence Synthesis

Evidence synthesis follows the CAM Cancer writing guidelines and includes:

- General characteristics of included studies
- Methodological quality and limitations of the evidence base
- Results on efficacy/effectiveness, including effect sizes where available
- Certainty of the evidence, taking into account study quality and consistency

Use of Artificial Intelligence

Artificial intelligence (AI) tools are used as supportive tools and all outputs are considered preliminary (See Appendix 4: Use of Artificial Intelligence).

- Study screening and management: Rayyan, an AI-assisted screening tool, is used to manage references and support title and abstract screening. Its features (e.g. ranking and inclusion/exclusion suggestions) assist reviewers but do not determine final decisions.
- Study eligibility of SRs: preliminary AMSTAR2 quality assessment of SRs, where AI provides an initial evaluation. In addition, two authors independently conduct the AMSTAR2 assessment.
- Data extraction into the standard CAM Cancer evidence table, including study characteristics and main results (See Appendix 2 and 3). All extracted data are reviewed by the one author, with spot-checks by a second author.

Final decisions on study selection, quality assessment, data extraction, and synthesis are made by human authors; human oversight is used at all stages.

Writing guidelines and templates

To maintain consistency, transparency, and methodological rigour across all CAM Cancer summaries, authors and reviewers are requested to adhere to the standards outlined in these writing guidelines.

Abstract

Findings need to be presented in a way that enables health-care professionals to make informed decisions with their patients. Although CAM Cancer summaries are primarily written for professionals, the abstract should also be understood by lay readers.

Description

Name of modality: commonly used names, including the Latin botanical name for herbs.

Brief description of treatment including key components, practices or substances as well as typical administration.

Proposed effects and proposed indications.

Efficacy

Main Research Findings
For each treatment outcome, summarise the evidence: body of evidence; limitations of evidence/ certainty of evidence; direction of evidence, i.e.

- Outcome 1: Key findings (positive, negative, or inconclusive). Comment on the amount, consistency, and quality of evidence. Evidence strength and limitations.
- Outcome 2 and any other outcomes: as above.

Safety

General statement about overall safety; for example, *"generally well tolerated"* or *"limited evidence suggests it is safe when used appropriately"*.

Main safety concerns related to frequently reported or documented serious adverse events, specific risk groups, or associated contraindications or interactions.

What is it?

Please provide a description of the CAM treatment covering the points listed below for natural products (e.g. herbal/other supplements) and therapies. Please limit this section to one page and always reference your sources.

Natural products: (herbal) supplements, dietary approaches

Description and background

- Scientific name, known synonyms and common names
- Systematic classification into a plant family, genus and species; if necessary differentiate it from other related species
- Medicinally used plant parts

Word count: ~100

Ingredients and quality issues

- Active ingredients/constituent groups
- Quality requirements/issues; if available include quality regulations (e.g. from a monograph such as Ph Eur)

Word count: ~100

Alleged indications

- Use in traditional herbal medicine and/or rational phytotherapy
- Use in cancer-specific context

Word count: ~100

Application and dosage

- Different forms of administration (e.g. oral, intravenous; tablets, liquid)
- Recommended dosages (monographs of EMA, ESCOP or Commission E, if available)
- Other relevant information on use, onset of treatment effects, duration of use

Word count: ~100

Mechanisms of action

- Describe how the intervention might work in relation to the alleged indications mentioned above.
- Pharmacological properties of the ingredients
- (Presumed) effects in biological systems (e.g. cells, tissues, organs)
- If known, influence of dose-dependent and structure-dependent factors
- Mutagenic and teratogenic potential of the preparation

Word count: ~100

Legal status

- Availability, legal provisions on pharmacy / prescription requirements as well as the approval status (drug, medicinal product, food supplement, food) classification of the EMA.

Word count: ~100

Therapies

Description

- Names, general description and definition
- Distinguish from other related therapies, if applicable

Word count: 100

Background

- Brief history, who developed the therapy and further developments
- Prevalence data, if available

Word count: 50

Alleged indications

- General use / indications
- Use in cancer-specific context

Word count: ~100

Mechanisms of action

- Describe how the intervention might work in relation to the alleged indications mentioned above.
- If applicable, please describe the metaphysical/spiritual components of the effects
- Consider variations of the therapy and use for specific symptoms/indications

Word count 100-150

Application and providers

- Description of how the therapy is being used, components, techniques, setting, duration, frequency
- Description of provider: self-care technique, professional advice needed, monitoring of patient needed
- Required qualifications of providers

Word count: 100

Legal issues

- Availability, legal provisions

Word count 100

Does it work?

General characteristics of included studies

- **Number of studies:** total of SRs (refs)
- Number of RCTs per SR: From x to y.
- **Participants**: Cancer patients with [cancer type; if applicable age groups, cancer stage, or any other specific population]. Participants per SR: From x to y.
- **Interventions**:
- **Comparators**: e.g. placebo, other active treatment, usual care, no treatment.
- **Outcomes**:
  Outcome 1, outcome 2, outcome 3, etc. If applicable include more specific outcome measures, e.g. incidence, severity.

Methodological quality and limitations of the evidence

- **Quality of systematic reviews:** according to assessment with AMSTAR2 or RoB NMA tools.
- **Risk of bias of included RCTs:** usually assessed with Cochrane RoB tool, overall conclusion across reviews.
- **Common limitations across included studies: e.g.** lack of blinding of participants and personnel, high attrition rates, incomplete outcome data, selective reporting in some trials.

Results for effects of intervention

Outcome 1

- Synthesis of results summarizing the body of evidence across SRs.
- State: direction of evidence (improvement or not); statistical significance (effect size with confidence interval and p-value), clinical significance; **certainty of the evidence** (GRADE).

Outcome 2

- As above.

Specific population

- If applicable; as above.

Is it safe?

Please summarise safety/applicability of the CAM modality. Please include the following issues:

Adverse reactions/effects

- Frequency: common, occasionally, rare, very rare
- Dose-dependency
  Severity
- Reversibility
- Occurrence of severe AEs

Word count: 100

Contraindications

- To what extent should an administration be considered after carefully weighing up all advantages and disadvantages (relative contraindication) or should be rejected (absolute contraindication)

Word count: 50

Interactions

- Interactions with drugs or other therapies

Word count: 100

Warnings

Important procedures and precautionary measures regarding the treatment of cancer patients are discussed (e.g. specialist medical clarification in advance of treatment, exclusion of interactions, communication on treatment-relevant diagnoses and complications)

Word count: 50

References

The summary should contain **a maximum of 40 references**. Please use the author-date system.

Appendix 1: Selecting Systematic Reviews

Prioritize

Highest methodological quality - most recent review search/most comprehensive search.

Process

- Identify most recent / most comprehensive SRs
- Apply AMSTAR 2 / RoB NMA to assess the methodological quality of SRs with pair-wise / network metaanalyses.
- Exclude reviews with critical flaws, only include high or moderate quality SRs
- Create a list of excluded reviews: reference with link to PubMed abstract, reason for exclusion
- Double-check AMSTAR2/ RoB NMA assessment of moderate-high SRs (2 reviewers)
- Perform data extraction for high- and moderate-quality SRs

Appendix 2: Evidence table

Table 1: Systematic reviews of therapy x in outcome y

Source: CAM-Cancer Collaboration. Title [online document]. https://cam-cancer.org/CAM-Summaries/xxx, date 2026.

Review characteristics	**PICO of included studies** Population, intervention, control, outcome	**Results and conclusions**	**Assessment**
Review: Reference with link to PubMed.			
Type of review and data synthesis SR with MA / NMA **Included studies: n and design** n: Design: RCTs **Search strategy** Databases: PubMed, Date: Restrictions: **RoB/Quality assessment** Exclusion criteria*	**Participants: n and diagnosis** n: Diagnosis: **Intervention** . **Control** . **Outcome measures and measurement tools** **Measure of treatment effect**	**Results for risk of bias assessment of primary studies included in review:** RoB or RoB2. **Grade:** # **Results for main outcome measures:** Combined§... **Subgroup analyses** **Adverse events** **Conclusions** "..."	**Quality of SR:** **AMSTAR2**** **ROB-NMA** ... **General** **Comments**

* Only if relevant (unusual!) inclusion or exclusion criteria
# State reported certainty of evidence (GRADE) or whether it was not formally assessed.
** For AMSTAR2 and RoB NMA, only report criteria that were not fulfilled, i.e. when a review deviates from the methodological standards
§ For statistically significant results, report effect sizes with SD and p-value. Mention non-significant results but do not include data

NOTE: Only SRs that specify the outcome in question as a primary outcome are included.

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Appendix 3: prompts for data extraction

1. Provide a citation for this article in Vancouver
2. From this article, provide the following information: Type of review; Search strategy including Databases, Dates of search, restrictions, type of data synthesis, risk of bias assessment used.
3. In terms of results, please find the number of participants, the numbers and types of studies included, the interventions assessed, comparisons, the outcome measures including outcome measurement tools, and the measure of treatment effects including the number of RCTs for the interventions, comparisons, and outcome measurement tools.
4. What are the results for each outcome? Present the information including effect sizes with confidence interval and p values in the format “effect size (confidence interval), p=)
5. What were the risk of bias assessment results? Present the information in a table clearly stating the number of unclear, low, and high-risk studies, then present the overall risk assessment results.
6. What is the verbatim conclusion for this SR?
7. What are the strengths and limitations of this article?
8. Using AMSTAR 2 / RoB NMA, rate the quality of this SR

Appendix 4: Use of Artificial Intelligence

Role of Artificial intelligence

Artificial intelligence (AI) technologies are used in the CAM Cancer process as supportive tools to enhance efficiency and consistency in selected methodological steps. AI does not replace human judgement: all AI-assisted outputs are reviewed and validated by CAM Cancer's experienced authors, reviewers and editors.

AI-Assisted Tasks

Study screening and management

Rayyan, an AI-assisted screening tool, is used to manage references and support title and abstract screening. CAM Cancer uses the platform as it facilitates collaboration and enables efficient application of inclusion and exclusion criteria. Its features such as e.g. ranking and inclusion/exclusion suggestions assist authors but do not determine final decisions.

Study selection and eligibility

AI is used to support the initial assessment of methodological quality of systematic reviews (SRs) using the AMSTAR2 tool.

- An AI tool (AI assistant M365 Copilot, Microsoft) is used as a supportive tool to generate preliminary AMSTAR 2 assessments based on predefined criteria (Shea 2017). The tool does not make final quality judgements.
- Two authors independently evaluate and revise all AI-generated assessments to establish whether a SR is of sufficient methodological quality to be included.
- Responsibility for all AMSTAR 2 ratings rests with the authors.

Data Extraction

Data extraction is conducted by authors with assistance from an AI tool (M365 Copilot, Microsoft). The tool is used to support identification and structuring of pre-specified data elements from included studies. All extracted data are independently verified by a human reviewer against the original publications and spot-checked by the second author.

- Study characteristics (e.g. population, cancer type, interventions, controls)
- Outcomes assessed
- Main results for risk of bias assessment
- Main results for effects with effect sizes
- Authors' verbatim conclusions

Quality Assurance and Transparency

- All final decisions, including AI-assisted study eligibility, quality and extracted data, reflect author judgement.
- AI-assisted outputs are treated as draft inputs only and no automated decisions are made.
- Discrepancies or uncertainties identified in AI-assisted outputs are resolved through manual review of the original publications.

Limitations

The use of AI may be limited by the quality, reporting clarity, and accessibility of the included publications. CAM Cancer observed that tables and graphs are prone to errors when AI tools are used for data extraction; consequently, these tasks are always performed by human authors. AI tools may misinterpret complex methodological details; therefore, human oversight is used at all stages where AI is applied.

Ethical and Methodological Considerations

The use of AI in CAM Cancer summaries aims to enhance reproducibility and efficiency while maintaining methodological rigour. AI is used in line with principles of transparency, accountability, and author responsibility.

Conflict of interest

The CAM Cancer editorial team has no financial or non-financial interests related to the AI tools it uses. Individual authors are requested to disclose any potential conflicts of interest (COI) in accordance with our COI policy on identifying, preventing, or managing COI.

Prepared following the Position statement on artificial intelligence (AI) use in evidence synthesis across Cochrane, the Campbell Collaboration, JBI and the Collaboration for Environmental Evidence 2025. Cochrane Database of Systematic Reviews 2025, Issue 10. Art. No.: ED000178. DOI: 10.1002/14651858.ED000178. By Flemyng E, Noel-Storr A, Macura B, et al.

Shea BJ, Reeves BC, Wells G, et al. AMSTAR 2: a critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. BMJ. 2017 Sep 21;358:j4008. doi: 10.1136/bmj.j4008.

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