

Systematic review

A list of fields that can be edited in an update can be found [here](#)

1. * Review title.

Give the title of the review in English

Risk factors of axial symptoms after posterior cervical spine surgery? a meta-analysis

2. Original language title.

For reviews in languages other than English, give the title in the original language. This will be displayed with the English language title.

3. * Anticipated or actual start date.

Give the date the systematic review started or is expected to start.

15/03/2024

4. * Anticipated completion date.

Give the date by which the review is expected to be completed.

13/11/2024

5. * Stage of review at time of this submission.

This field uses answers to initial screening questions. It cannot be edited until after registration.

Tick the boxes to show which review tasks have been started and which have been completed.

Update this field each time any amendments are made to a published record.

The review has not yet started: Yes

Review stage	Started	Completed
Preliminary searches	No	No
Piloting of the study selection process	No	No
Formal screening of search results against eligibility criteria	No	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

Provide any other relevant information about the stage of the review here.

6. * Named contact.

The named contact is the guarantor for the accuracy of the information in the register record. This may be any member of the review team.

ke zhang

Email salutation (e.g. "Dr Smith" or "Joanne") for correspondence:

Mr zhang

7. * Named contact email.

Give the electronic email address of the named contact.

2291519681@qq.com

8. Named contact address

Give the full institutional/organisational postal address for the named contact.

Beisanhuan East Road, Chaoyang District, Beijing

9. Named contact phone number.

Give the telephone number for the named contact, including international dialling code.

19937139327

10. * Organisational affiliation of the review.

Full title of the organisational affiliations for this review and website address if available. This field may be

completed as 'None' if the review is not affiliated to any organisation.

China-japan Friendship Hospital

Organisation web address:

12. * Review team members and their organisational affiliations.

Give the personal details and the organisational affiliations of each member of the review team. Affiliation refers to groups or organisations to which review team members belong. **NOTE: email and country now MUST be entered for each person, unless you are amending a published record. PLEASE USE AN INSTITUTIONAL EMAIL ADDRESS IF POSSIBLE.**

Mr ke zhang. China-japan Friendship Hospital
Zhencheng Xiong. Department of Orthopedic Surgery, West China Hospital, West China Medical School, Sichuan University, Chengdu, 610041, Sichuan Province, China
Sizhen Zhan. China-japan Friendship Hospital
Ping Yi. China-Japan Friendship Hospital

12. * Funding sources/sponsors.

Details of the individuals, organizations, groups, companies or other legal entities who have funded or sponsored the review.

Clinical research on the construction of a diagnostic and treatment paradigm of integrated traditional Chinese and Western medicine for cervical spondylotic myelopathy based on the "Kidney Governor" theory

Grant number(s)

State the funder, grant or award number and the date of award

13. * Conflicts of interest.

List actual or perceived conflicts of interest (financial or academic).

None

14. Collaborators.

Give the name and affiliation of any individuals or organisations who are working on the review but who are not listed as review team members. **NOTE: email and country must be completed for each person, unless you are amending a published record.**

15. * Review question.

State the review question(s) clearly and precisely. It may be appropriate to break very broad questions down into a series of related more specific questions. Questions may be framed or refined using PI(E)COS or similar where relevant.

Risk factors of axial symptoms after posterior cervical spine surgery? a meta-analysis

16. * Searches.

State the sources that will be searched (e.g. Medline). Give the search dates, and any restrictions (e.g. language or publication date). Do NOT enter the full search strategy (it may be provided as a link or attachment below.)

Four databases were used: The Cochrane Library, PubMed, Embase, and Web of Science, and the search time was from January 2009 to March 2024.

17. URL to search strategy.

Upload a file with your search strategy, or an example of a search strategy for a specific database, (including the keywords) in pdf or word format. In doing so you are consenting to the file being made publicly accessible. Or provide a URL or link to the strategy. Do NOT provide links to your search **results**.

Alternatively, upload your search strategy to CRD in pdf format. Please note that by doing so you are consenting to the file being made publicly accessible.

Do not make this file publicly available until the review is complete

18. * Condition or domain being studied.

Give a short description of the disease, condition or healthcare domain being studied in your systematic review.

Patients with axial symptoms were selected as study subjects. Axial pain was defined as pain from the neck to the shoulder area or perishoulder area.

19. * Participants/population.

Specify the participants or populations being studied in the review. The preferred format includes details of both inclusion and exclusion criteria.

Inclusion criteria: (1) case-control studies or cohort studies; (2) articles mentioning posterior or anterior-posterior access; and (3) articles that provided outcome odds ratio values with 95% confidence intervals from multifactorial logistic regression analyses or were able to calculate OR with 95% CI from literature data. Exclusion criteria: (1) Literature with duplicate data publication. If the article was reported by the same author from the same institution, the literature containing the most recent report with detailed and complete clinical data was selected, and if the same number of cases were reported by the same author, the article with the most information was selected. (2) Dissertations, case reports, conference abstracts, letters, Meta-analyses and review literature. (3) Non-English literature with incomplete data, unclear results, poor quality of literature, and unavailability of the original text. (4) Studies mentioning only anterior surgery or unspecified surgical modalities applied to the treatment.

20. * Intervention(s), exposure(s).

Give full and clear descriptions or definitions of the interventions or the exposures to be reviewed. The preferred format includes details of both inclusion and exclusion criteria.

Patients with axial pain after posterior cervical spine surgery

21. * Comparator(s)/control.

Where relevant, give details of the alternatives against which the intervention/exposure will be compared (e.g. another intervention or a non-exposed control group). The preferred format includes details of both inclusion and exclusion criteria.

Patients without axial pain after posterior cervical spine surgery

22. * Types of study to be included.

Give details of the study designs (e.g. RCT) that are eligible for inclusion in the review. The preferred format includes both inclusion and exclusion criteria. If there are no restrictions on the types of study, this should be stated.

(1) case-control studies or cohort studies; (2) articles mentioning posterior or anterior-posterior access; and (3) articles that provided outcome odds ratio values with 95% confidence intervals from multifactorial logistic regression analyses or were able to calculate OR with 95% CI from literature data.

23. Context.

Give summary details of the setting or other relevant characteristics, which help define the inclusion or exclusion criteria.

24. * Main outcome(s).

Give the pre-specified main (most important) outcomes of the review, including details of how the outcome is defined and measured and when these measurement are made, if these are part of the review inclusion criteria.

Age, gender, type of disease, duration of symptoms, surgical technique, neurologic evaluation, radiographic evaluation, postoperative management, etc.

Measures of effect

Please specify the effect measure(s) for you main outcome(s) e.g. relative risks, odds ratios, risk difference, and/or 'number needed to treat.

25. * Additional outcome(s).

List the pre-specified additional outcomes of the review, with a similar level of detail to that required for main outcomes. Where there are no additional outcomes please state 'None' or 'Not applicable' as appropriate to the review

Surgical exposure, cervical external fixation time, C2 spinous process detachment

Measures of effect

Please specify the effect measure(s) for you additional outcome(s) e.g. relative risks, odds ratios, risk difference, and/or 'number needed to treat.

26. * Data extraction (selection and coding).

Describe how studies will be selected for inclusion. State what data will be extracted or obtained. State how this will be done and recorded.

The data extraction table should include: ? Basic information of the literature: first author, publication year, research area, study type, follow-up time; ? Characteristics of the research subjects: sample size (case group and control group), gender ratio, disease type , surgical methods, imaging data; ? Outcome indicators: risk factors for axial symptoms and related OR values and 95% CI.

27. * Risk of bias (quality) assessment.

State which characteristics of the studies will be assessed and/or any formal risk of bias/quality assessment tools that will be used.

The NOS literature quality rating scale recommended by the Cochrane Collaboration Network was used to evaluate the risk of literature bias.

28. * Strategy for data synthesis.

Describe the methods you plan to use to synthesise data. This **must not be generic text** but should be **specific to your review** and describe how the proposed approach will be applied to your data. If meta-analysis is planned, describe the models to be used, methods to explore statistical heterogeneity, and software package to be used.

Meta analysis was performed using RevMan 5.4 software (Cochrane Collaboration, Oxford, UK). The odds ratio (OR) is used as the effect indicator for dichotomous variables, and the weighted mean difference (WMD) is used as the efficacy analysis statistic for continuous variables. Both provide 95% confidence intervals. The quantitative I^2 value was used to test the statistical heterogeneity of the included trials. The interval for no heterogeneity was 0%-25%, the interval for low heterogeneity was 26%-50%, and the interval for moderate heterogeneity was 51%-75 %, and the highly heterogeneous interval is 75%[1]. When $P \leq 0.1$, $I^2 \leq 50\%$, it means there is homogeneity between studies, and the fixed effect model is used to combine statistics; when $P > 0.1$, $I^2 > 50\%$, it means there is heterogeneity among studies, then random effect model is used. Effect model analysis and subgroup analysis. Sensitivity analysis was performed by converting the exposure factors between random effects model and fixed effect model and removing single items. When the number of included documents is ≥ 10 , a funnel plot is made to observe whether there is bias in the results of the systematic review. The test level is $\alpha = 0.05$, and $P \leq 0.05$ means the difference is statistically significant.

29. * Analysis of subgroups or subsets.

State any planned investigation of 'subgroups'. Be clear and specific about which type of study or participant will be included in each group or covariate investigated. State the planned analytic approach.

The $P \leq 0.05$ indicates the results, and the reasons for the heterogeneity need to be analyzed to

determine whether it is possible

Random effects model was used for pooled analysis and subgroup analysis.

30. * Type and method of review.

Select the type of review, review method and health area from the lists below.

Type of review

Cost effectiveness

No

Diagnostic

No

Epidemiologic

No

Individual patient data (IPD) meta-analysis

No

Intervention

No

Living systematic review

No

Meta-analysis

Yes

Methodology

No

Narrative synthesis

No

Network meta-analysis

No

Pre-clinical

No

Prevention

No

Prognostic

No

Prospective meta-analysis (PMA)

No

Review of reviews

No

Service delivery

No

Synthesis of qualitative studies

No

Systematic review

Yes

Other

No

Health area of the review

Alcohol/substance misuse/abuse

No

Blood and immune system

No

Cancer

No

Cardiovascular

No

Care of the elderly

No

Child health

No

Complementary therapies

No

COVID-19

No

Crime and justice

No

Dental

No

Digestive system

No

Ear, nose and throat

No

Education

No

Endocrine and metabolic disorders

No

Eye disorders

No

General interest

No

Genetics

No

Health inequalities/health equity

No

Infections and infestations

No

International development

No

Mental health and behavioural conditions

No

Musculoskeletal

Yes

Neurological

No

Nursing

No

Obstetrics and gynaecology

No

Oral health

No

Palliative care

No

Perioperative care

No

Physiotherapy

No

Pregnancy and childbirth

No

Public health (including social determinants of health)

No

Rehabilitation

No

Respiratory disorders

No

Service delivery

No

Skin disorders

No

Social care

No

Surgery

Yes

Tropical Medicine

No

Urological

No

Wounds, injuries and accidents

No

Violence and abuse

No

31. Language.

Select each language individually to add it to the list below, use the bin icon to remove any added in error.
English

There is not an English language summary

32. * Country.

Select the country in which the review is being carried out. For multi-national collaborations select all the countries involved.

China

33. Other registration details.

Name any other organisation where the systematic review title or protocol is registered (e.g. Campbell, or The Joanna Briggs Institute) together with any unique identification number assigned by them. If extracted data will be stored and made available through a repository such as the Systematic Review Data Repository (SRDR), details and a link should be included here. If none, leave blank.

34. Reference and/or URL for published protocol.

If the protocol for this review is published provide details (authors, title and journal details, preferably in Vancouver format)

Add web link to the published protocol.

Or, upload your published protocol here in pdf format. Note that the upload will be publicly accessible.

No I do not make this file publicly available until the review is complete

Please note that the information required in the PROSPERO registration form must be completed in full even if access to a protocol is given.

35. Dissemination plans.

Do you intend to publish the review on completion?

No

Give brief details of plans for communicating review findings.?

36. Keywords.

Give words or phrases that best describe the review. Separate keywords with a semicolon or new line. Keywords help PROSPERO users find your review (keywords do not appear in the public record but are included in searches). Be as specific and precise as possible. Avoid acronyms and abbreviations unless these are in wide use.

37. Details of any existing review of the same topic by the same authors.

If you are registering an update of an existing review give details of the earlier versions and include a full bibliographic reference, if available.

38. * Current review status.

Update review status when the review is completed and when it is published. New registrations must be ongoing so this field is not editable for initial submission.

Please provide anticipated publication date

Review_Ongoing

39. Any additional information.

Provide any other information relevant to the registration of this review.

Updates to previous data studies

40. Details of final report/publication(s) or preprints if available.

Leave empty until publication details are available OR you have a link to a preprint (NOTE: this field is not editable for initial submission). List authors, title and journal details preferably in Vancouver format.

Give the link to the published review or preprint.