Systematic review

1. * Review title.

Give the working title of the review, for example the one used for obtaining funding. Ideally the title should state succinctly the interventions or exposures being reviewed and the associated health or social problems. Where appropriate, the title should use the PI(E)COS structure to contain information on the Participants, Intervention (or Exposure) and Comparison groups, the Outcomes to be measured and Study designs to be included.

Scanning behavior in hemianopia - a systematic review

2. Original language title.

For reviews in languages other than English, this field should be used to enter the title in the language of the review. This will be displayed together with the English language title.

3. * Anticipated or actual start date.

Give the date when the systematic review commenced, or is expected to commence.
01/11/2019

4. * Anticipated completion date.

Give the date by which the review is expected to be completed.
01/09/2020

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

Indicate the stage of progress of the review by ticking the relevant Started and Completed boxes. Additional information may be added in the free text box provided.
Please note: Reviews that have progressed beyond the point of completing data extraction at the time of initial registration are not eligible for inclusion in PROSPERO. Should evidence of incorrect status and/or completion date being supplied at the time of submission come to light, the content of the PROSPERO record will be removed leaving only the title and named contact details and a statement that inaccuracies in the stage of the review date had been identified.
This field should be updated when any amendments are made to a published record and on completion and publication of the review. If this field was pre-populated from the initial screening questions then you are not able to edit it until the record is published.

The review has not yet started: No

Review stage	Started	Completed
Preliminary searches	Yes	No
Piloting of the study selection process	Yes	No
Formal screening of search results against eligibility criteria	Yes	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 (e.g. Funded proposal, protocol not yet finalised).

Started with the formal screening of the search results against eligibility criteria.

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6. * Named contact.

The named contact acts as the guarantor for the accuracy of the information presented in the register record.

Josephien Jansen

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

Ms Jansen

7. * Named contact email.

Give the electronic mail address of the named contact.

j.l.jansen@rug.nl

8. Named contact address

Give the full postal address for the named contact.

Dep. of clinical and developmental neuropsychology, University of Groningen Grote kruisstraat 2\/1 H.0186

9712 NB Groningen, The Netherlands

9. Named contact phone number.

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

0031503632009

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.

University of Groningen

Organisation web address:

www.rug.nl

11. * 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 are now mandatory fields for each person.**

Josephien L. Jansen. University of Groningen
Dr Gera A. de Haan. University of Groningen, Dutch Royal Visio
Sarah Tol. University of Groningen
Dr Joost H.C. Heutink. University of Groningen, Dutch Royal Visio
Professor Frans W. Cornelissen. University Medical Centre Groningen

12. * Funding sources/sponsors.

Give details of the individuals, organizations, groups or other legal entities who take responsibility for initiating, managing, sponsoring and/or financing the review. Include any unique identification numbers assigned to the review by the individuals or bodies listed.

Funding provided by Stichting NOVUM. Initiating and management of the review is done by the University of Groningen.

Grant number(s)

Stichting NOVUM does not provide grant numbers. Project Title: Scanning behaviour in hemianopia: The Next Step.

13. * Conflicts of interest.

List any conditions that could lead to actual or perceived undue influence on judgements concerning the main topic investigated in the review.

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 are now mandatory fields for each person.**

15. * Review question.

State the question(s) to be addressed by the review, clearly and precisely. Review questions may be specific or broad. 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 where relevant.

1. How do people with hemianopia scan during various activities?

2. What are the differences in scanning behavior between people with hemianopia and other groups (i.e. people with other types of acquired brain injury, simulated hemianopia and people with normal vision) during various activities?

3. What parameters are used in the current scientific literature to examine scanning behavior in people with hemianopia?

4. Are participant characteristics such as age, visual field size, time since onset and side of the visual field defect of influence on scanning behavior during various activities?

5. How often is the efficiency of scanning behavior during various activities assessed in people with hemianopia?

6. If efficiency of scanning behavior is examined in people with hemianopia, how is this operationalized?

7. If efficiency of scanning behavior is examined in people with hemianopia, is certain scanning behavior more efficient for people with hemianopia during various activities?

16. * Searches.

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

The literature search was performed in december 2019. The databases PsycINFO, MEDLINE and Web of Science were searched. Acticles were excluded when they were a) published in another language then English, Dutch or German, b) not peer-reviewd (e.g. supplements, meeting abstracts, notes, letters to editors, c) reviews and d) not explicitly reporting scanning behavior measured during a task as an outcome measure.

17. URL to search strategy.

Give a link to a published pdf/word document detailing either the search strategy or an example of a search strategy for a specific database if available (including the keywords that will be used in the search strategies), or upload your search strategy.Do NOT provide links to your search results.

https://www.crd.york.ac.uk/PROSPEROFILES/169419_STRATEGY_20200214.pdf

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. This could include health and wellbeing outcomes.

Scanning behavior - the way people are looking - of people with hemianopia during a certain activity/task. Articles that used eye-tracking for diagnostic purposes and/or perimetry assessment were excluded.

19. * Participants/population.

Give summary criteria for the participants or populations being studied by the review. The preferred format includes details of both inclusion and exclusion criteria.

The largest group of visual field disorders after acquired brain injury are homonymous visual field defects (HVFDs), which refers to visual field defects simular for both eyes and controlaterial to the brain damage. Hemianopia, in which the left or right half of the visual field is not perceived, is the most common form of HVFD and occurs in 8-31% of all stroke patients. Other causes of hemianopia are, among others, brain tumor, traumatic brain injusty, multiple sclerosis and the posterior form of Alzheimer's disease. Articles were included when the study included a clearly specified number of human adults with (simulated) visual field defects described as homonymous hemianpia or homonymous visual field defects (without neglect) mainly

restricted to one half of the visual field. Studies that include patients with transient visual field defects in cases of epilepsy, migraine or hyperglycemia were excluded. In addition, studies that include patients with hemidecortication were included.

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

Give full and clear descriptions or definitions of the nature of the interventions or the exposures to be reviewed.

Scanning behavior should be objectively/quantitatively measured.

21. * Comparator(s)/control.

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

Scanning behavior of people with hemianopia will be compared to scanning behavior of other groups (i.e. people with other types of acquired brain unjury, simulated hemianopia, people with normal vision)

22. * Types of study to be included.

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

There are no restrictions to types of study design. However, descriptive studies or reviews (i.e. studies that do not include a patient group) are excluded. In addition, study protocols are excluded.

23. Context.

Give summary details of the setting and 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.

Scanning behavior expressed in quantitative data during different task types. The review will outline eye-tracking parameters used in the studies included.

* 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.

Scanning behavior parameters: fixations, refixations, saccades, saccade amplitute, scanpath, etc.

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

Task types and outcomes, and demographic and disease characteristics.

* 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.

Task types (e.g. mobility, searching, reading, other) and task outcomes (e.g. search time, reading speed, number of ommissions, etc.)

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.

After the removal of duplicates, an evaluation of title and abstract is performed based on the above-stated in- and exlusion criteria. Afterwards, full texts are assessed on their content for elexibility.

Lastly, the reference lists of eligile articles is searched in order to identify additional publications that were not identified during the database search.

27. * Risk of bias (quality) assessment.

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

The n of each study will be reported. Further quality assessment is beyond the scope of this review.

Reference lists of included articles, as well as reference lists from other relevant reviews will be assessed to be able to identify studies that were missed based on the original literature search. Excluded articles are checked="checked" value="1" independently by a member of the review team.

28. * Strategy for data synthesis.

Provide details of the planned synthesis including a rationale for the methods selected. This **must not be generic text** but should be **specific to your review** and describe how the proposed analysis will be applied to your data.

We will provide a narrative synthesis to characterize publications, the tasks and the eye-tracking measures in patients with hemianopia supported by tables and figures.

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 articles measuring scanning behavior will be divided into subgroups of task-type: tasks measuring mobility, searching, reading, or other activities. In addition, hemianopia groups will be divided based on the side of the field defect.

30. * Type and method of review.

Select the type of review and the review method from the lists below. Select the health area(s) of interest for your review.

Type of review

Cost effectiveness
No

Diagnostic
No

Epidemiologic
No

Individual patient data (IPD) meta-analysis
No

Intervention
No

Meta-analysis
No

Methodology
No

Narrative synthesis
Yes

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
No

Neurological
Yes

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
No
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 from the drop down list. For multi-national collaborations select all the countries involved.
Netherlands

33. Other registration details.

Give the name of any organisation where the systematic review title or protocol is registered (such as with The Campbell Collaboration, or The Joanna Briggs Institute) together with any unique identification number assigned. (N.B. Registration details for Cochrane protocols will be automatically entered). 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.

Give the citation and link for the published protocol, if there is one

Give the link to the published protocol.

Alternatively, upload your published protocol to CRD in pdf format. Please note that by doing so you are consenting to the file being made 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.

Give brief details of plans for communicating essential messages from the review to the appropriate audiences.

The outcomes of the review will be discussed with project members and members from the advisory group from Dutch Royal Visio, a centre of expertise for blind and partially sighted people. It will also be presented at relevant national and international conferences. In addition, the results from the review will be used to adapt a project plan regarding scanning behavior in people with hemianopia, for which data collection is planned in late 2020.

Do you intend to publish the review on completion?

Yes

36. Keywords.

Give words or phrases that best describe the review. Separate keywords with a semicolon or new line. Keywords will help users find the review in the Register (the words 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.

hemianopia; scanning behavior; scanning behaviour; eye-tracking

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

Give details of earlier versions of the systematic review if an update of an existing review is being registered, including full bibliographic reference if possible.

38. * Current review status.

Review status should be updated when the review is completed and when it is published. For newregistrations the review must be Ongoing.
Please provide anticipated publication date

Review_Ongoing

39. Any additional information.

Provide any other information the review team feel is relevant to the registration of the review.

40. Details of final report/publication(s).

This field should be left empty until details of the completed review are available.

Give the link to the published review.