

Appendix 2 Search strategy

Questions

Eye disease and injury

For 'causes of eye disease and injury', questions were of the general format:

- 'Does factor X cause condition Y' (eg 'In the general population, does smoking, compared to not smoking, increase the risk of developing cataracts?').

To manage the search for information for this question across the multiple risk factors and conditions listed in the brief, we created the topic grids shown in Tables A2.1–A2.3.

Eye infections

For eye infections, questions were:

- 'Do infection control measures reduce the incidence of eye infections?'
- 'Does use of contact lenses, compared to not using contact lens, affect the incidence of eye infections?'
- 'In contact lens wearers, does education on use and misuse of contact lenses, compared to no education on this issue, affect the incidence of eye infections?'

Eye tests

For eye tests, questions were:

- 'Do frequent eye tests (eg 1–2 years), compared to no or infrequent eye tests, reduce the incidence of eye disease?' (This question was applied to different age groups; eg children, adults and older people.)
- 'What is the optimal frequency of eye tests for each age group?'

PICO criteria

Based on the above broad questions, the full range of PICO (population, indication, comparator and outcome) criteria of interest for this review are shown in Table A2.1. The main focus of the searches here, given the breadth of the review, was on the intervention/indicator and outcome components of the question (I and O). Topic grids for the risks factors for eye disease and injury are shown in Tables A2.2–A2.4.

Table A2.1 PICO criteria

Criterion	Cause of eye disease and injury	Eye infections	Eye tests	Early warning signs
Population	<ul style="list-style-type: none"> • general population • children • aged • Indigenous people • people with diabetes • people with a family history of eye disease 	<ul style="list-style-type: none"> • general population • contact lens wearers • children • aged • Indigenous • people with diabetes • people with a family history of eye disease 	<ul style="list-style-type: none"> • general population (where possible, broken down into age groups) 	<ul style="list-style-type: none"> • people with visual impairment or physical symptoms of eye problems
Intervention or indicator	<ul style="list-style-type: none"> • exposure to risk factor^a 	<ul style="list-style-type: none"> • exposure to infection control measures • wearing contact lenses • education on uses of contact lenses 	<ul style="list-style-type: none"> • frequent eye tests (eg 1–2 years) 	NA
Comparator	<ul style="list-style-type: none"> • no exposure to risk factor 	<ul style="list-style-type: none"> • no exposure to infection control measures • not wearing contact lenses • not receiving education 	<ul style="list-style-type: none"> • no or infrequent eye tests 	NA
Outcome	<ul style="list-style-type: none"> • increase in incidence of eye disease and injury^a 	<ul style="list-style-type: none"> • decrease in incidence of eye infection 	<ul style="list-style-type: none"> • increase in incidence of eye disease 	<ul style="list-style-type: none"> • change in incidence or severity of eye disease

^a See Tables A2.2, A2.3 and A2.4

Table A2.2 Topic grid for risk factors for eye disease

Risk factor	Condition						
	Cataract	Glaucoma	Age-related macular degeneration	Diabetic retinopathy	Retinitis pigmentosa	Trachoma	Amblyopia
Smoking							
Alcohol consumption							
Poor nutrition							
Eye infections							
Ageing							
UV damage ^a							
Injuries and accidents							
Corticosteroids							
High myopia							
Ocular hypertension							
Poor living conditions							
Diabetes							
Heredity							
Hypertension							
Squint							
Different refractive error in each eye							
Cataract							
Physical activity							

^aUV damage was also studied as a risk factor for two further conditions: pterygium and ocular surface neoplasm

Table A2.3 Topic grid for risk factors for eye injury

Risk factor	Type of injury			
	Impact or blunt force	Foreign bodies in eye	Chemical injury	Radiation
No eye protection				
Wrong type of eye protection				
Work				
Sport				
Assault				
Alcohol consumption				
Home environment (eg DIY and gardening)				

DIY = 'do it yourself'

Table A2.4 Topic grid for risk factors for refractive errors

Risk factor	Refractive error			
	Myopia	Hyperopia	Astigmatism	Presbyopia
Alcohol consumption				
Poor nutrition				
Eye infections				
Ageing				
UV damage				
Diabetes				
Heredity				
Long-sightedness (hyperopia)				
An occupation that requires near-vision work				
Ocular disease				
Trauma				
Antidepressants				
Antihistamines				
Warmer climates				
Excessive reading				
Excessive use of computer or television				

UV = ultraviolet

Search

Sources

We searched the following databases for relevant reviews and primary studies:

- AMED
- Biological Abstracts
- CINAHL
- Clinical Evidence (BMJ)
- Cochrane Library (including the Cochrane Database of Systematic Reviews, the Database of Abstracts of Reviews of Effects, and the Cochrane Central Register of Clinical Trials)
- EMBASE
- GeoRef
- Health and Psychosocial Instruments
- Maternity and Infant Care
- Mental Measurements Yearbook
- PsycBOOKS
- PsycINFO
- PsycCRITIQUES
- PubMed (MEDLINE)
- targeted websearch (eg the American Academy of Ophthalmology website)
- general websearch (Google, etc).

Search terms

Where possible, we used ‘medical subject headings’ (MeSH), which refers to the National Library of Medicine’s controlled vocabulary that is used for indexing articles for MEDLINE (PubMed). MeSH terminology provides a consistent way to retrieve information where different terminology may be used for the same concepts.

As an example, the MeSH headings related to the search term ‘cataract’ included papers with any of the following key words:

- Cataracts
- Cataract, Membranous
- Cataracts, Membranous
- Membranous Cataract
- Membranous Cataracts
- Pseudoaphakia

- Pseudoaphakias
- Lens Opacities
- Lens Opacity
- Opacities, Lens
- Opacity, Lens.

These MeSH terms were combined with text words, as appropriate.

Limits

The following limits were used:

- January 1997 — December 2006 (10 years)⁵
- Language (only papers with at least the abstract in English).

⁵ UV damage as a risk factor for pterygium and ocular surface neoplasia were both searched from January 2006 to November 2008.