Authors' objectives
To assess the effectiveness and risks of cataract surgery.

Searching
Details of the search strategy were described previously (see Other Publications of Related Interest). MEDLINE was searched using the terms 'cataract', 'cataract extraction', 'lenses', 'intraocular', 'aphakia', 'cataract complications', 'cataract-intraoperative complications' and 'cataract-postoperative complications'. Additional material was obtained by examining bibliographies of identified articles and by contacting clinical experts in the field. Only studies published from 1979 to 1991 were included.

Study selection
Study designs of evaluations included in the review
Cohort studies and case series reports; no randomised controlled trials were identified.

Studies were selected on the basis of 5 inclusion and 7 exclusion criteria (see Other Publications of Related Interest).

Specific interventions included in the review
Cataract extraction and intraocular lens implantation utilising extracapsular cataract extraction, phacoemulsification and intracapsular cataract extraction.

Participants included in the review
No gender or age restrictions were specified.

Outcomes assessed in the review
The outcomes were visual acuity and 18 types of surgical complications, excluding astigmatism.

How were decisions on the relevance of primary studies made?
Two researchers reviewed the papers.

Assessment of study quality
An abstraction form was designed to systematically evaluate a number of aspects of the design, performance and reporting of the studies. This form included 92 items grouped into 11 methodological categories. A total of 9 of these categories were used on all studies, while 2 additional forms were used to evaluate cohort studies. The details of these categories are listed in the previous article (see Other Publications of Related Interest). Each article was assessed by two people trained in epidemiology, and any discrepancies were settled by discussion.

Data extraction
Each article was reviewed and pre-assigned data extracted by two ophthalmologists. The reviewers were blinded to the author(s), their institutions and the journal source.

Methods of synthesis
How were the studies combined?
Pooled outcomes were utilised. Studies were weighted on the basis of sample size and/or on the basis of the previously assigned quality score.
How were differences between studies investigated?
Differences between studies were discussed with respect to sample size, surgical method, duration of follow-up and variations in case-mix and study design.

Results of the review
Ninety studies were included.

A high rate (greater than 95%) of people had visual acuity of greater than 20/40 following surgery. There is a low rate of complication from the surgery, with the exception of posterior capsule opacification which had an overall rate of 19.7%. Since this is a complication that is easily treated, this was not considered as a major issue. No differences were found in visual acuity rates or complication rates related to the surgical technique, though the authors advise caution in interpretation of this finding.

Authors’ conclusions
The published literature indicates that modern cataract surgery yields excellent visual acuity, and although not free of complication, is a very safe procedure regardless of the extraction technique used.

CRD commentary
This is a useful review of current literature in the field of cataract surgery. Research in this field would benefit from an improvement in the quality of the work being conducted. In the companion article (see Other Publications of Related Interest), the authors highlight that the majority of the available research is deficient in design, implementation and reporting. This review acknowledges this deficit, reflecting that the data included in the studies lacked consistency of definition and completeness of reporting, e.g. visual acuity.

The authors had a well-defined review question and utilised a comprehensive search strategy. Data extractors were experts in the field and were blinded to the sources of the articles under review.

The authors point out in their conclusions that there are a number of deficits in the review, besides the problems of the quality of the studies. These include:

1. A lack of examination of all aspects of the surgical technique, e.g. anaesthesia, actual surgical protocol and the use of various medications.

2. One of the outcome measures is visual acuity, which they believe is not measured in a consistent manner, but also may not be the most appropriate outcome measure for this treatment.

3. A possible publication bias exists since only published literature was reviewed.

Implications of the review for practice and research
The need for well-designed research in this field is made very apparent by this paper.

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**Other publications of related interest**

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