Complete Summary

GUIDELINE TITLE

Care of the adult patient with cataract.

BIBLIOGRAPHIC SOURCE(S)

American Optometric Association. Care of the adult patient with cataract. 2nd ed. St. Louis (MO): American Optometric Association; 1996. 84 p. (Optometric clinical practice guideline; no. 16). [151 references]

GUIDELINE STATUS

This is the current release of the guideline.

According to the guideline developer, this guideline has been reviewed on a biannual basis and is considered to be current as of 2004. This review process involves updated literature searches of electronic databases and expert panel review of new evidence that has emerged since the original publication date.

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SCOPE

DISEASE/CONDITION(S)

Cataract

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management

CLINICAL SPECIALTY

Optometry

INTENDED USERS

Health Plans
Optometrists

GUIDELINE OBJECTIVE(S)

- To identify patients at risk of developing cataracts
- To accurately diagnose cataracts
- To improve the quality of care rendered to patients with cataracts
- To effectively manage patients with cataracts
- To identify and manage postoperative complications
- To inform and educate patients and other health care practitioners about the visual complications and functional disability from cataracts and the availability of treatment

TARGET POPULATION

Adults with cataracts

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis

1. Patient history and physical examination
2. Ocular examination
3. Supplemental testing

Treatment

1. Nonsurgical treatment
2. Cataract surgery (extracapsular cataract extraction by phacoemulsification or nuclear expression)

MAJOR OUTCOMES CONSIDERED

- Visual acuity
- Activities of daily living

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer performed literature searches using the National Library of Medicine's Medline database and the VisionNet database.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Committee)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not stated

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not applicable

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The Reference Guide for Clinicians was reviewed by the American Optometric Association (AOA) Clinical Guidelines Coordinating Committee and approved by the AOA Board of Trustees.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Every patient with cataract should be informed of the presence of the condition. The optometrist should discuss with the patient the natural course of the cataract and the treatment options, as well as the importance of routine examinations. Cataract patients whose vision loss is correctable with spectacles should be informed that the lens opacities might progress and require other spectacle lens changes or surgery. Patients who cannot otherwise achieve adequate vision for their activities of daily living should be informed that only surgery can help rehabilitate their vision (i.e., that further spectacle changes would be of limited value). A candidate for cataract surgery must be informed of all of the risks and benefits of surgery. The patient should be provided complete information on the pros and cons of the various surgical techniques, the skills of the surgeons in the area, and the expected outcome and schedule for postoperative care. The patient who has had cataract surgery should receive proper and timely postoperative care and proper monitoring of both overall ocular health and vision status.

A. **Diagnosis of Cataract**

Many patients with undiagnosed cataract first present for examination when they experience symptoms of reduced vision that affects their daily activities. Such patients should undergo a comprehensive eye and vision examination with particular attention given to inspection of the lens of the eye. The essential elements of this evaluation include:

1. **Patient History**
2. **Ocular Examination**

   Elements of the ocular examination may include, but are not limited to, the following:

   - Measurement of visual acuity under both low and high illumination
   - Biomicroscopy with pupillary dilation, with special attention to the three clinical zones of the lens and the classification and quantification of the cataract
   - Stereoscopic fundus examination with pupillary dilation
   - Assessment of ocular motility and binocularity
   - Visual fields screening by confrontation, and if a defect is noted, further investigation by formal perimetry
   - Evaluation of pupillary responses to rule out afferent pupillary defects
   - Refraction to rule out refractive shift as a cause for the decreased vision
   - Measurement of intraocular pressure (IOP).
3. **Supplemental Testing**

B. **Management of Cataract**

Care of the patient with cataract may require referral for consultation with or treatment by another optometrist or an ophthalmologist experienced in the treatment of cataract, for services outside the optometrist's scope of practice. The optometrist may participate in the co-management of the patient, including both preoperative and postoperative care. The extent to which an optometrist can provide postoperative treatment for patients who have undergone cataract surgery may vary, depending on the state's scope of practice laws and regulations and the individual optometrist's certification.

1. **Basis for Treatment**

   The treatment decision for the patient with cataract depends on the extent of his or her visual disability.

2. **Available Treatment Options**
   a. **Nonsurgical Treatment**
   b. **Indications for Surgery**

      Surgery is indicated when cataract formation has reduced visual acuity to the level that it interferes with the patient's lifestyle and everyday activities, and when satisfactory functional vision cannot be obtained with spectacles, contact lenses, or other optical aids. The vision needs of the patient, as they relate to his or her lifestyle, occupation, and hobbies, should be considered.

3. **Patient Education**

   Surgical candidates should be informed of the risks involved with cataract surgery.

   Patients should be advised of the advantages and disadvantages of the available cataract extraction techniques and intraocular lenses and the postoperative care available to them. The qualifications of the surgeon(s) and the setting for delivery of care should be discussed. Patient counseling may include a discussion of the following aspects of the surgery:

   - Anesthesia
   - Location and type of incision
   - Intraocular lens options
   - Medications
   - Disposition
   - Continuing postoperative care

4. **Follow-up**

   The frequency and composition of evaluation and management visits for an uncomplicated clinical course following cataract surgery are summarized in the table, below. Refer to the guideline document for discussion of postoperative care of surgical complications.

Frequency and Composition of Evaluation and Management Visits for an Uncomplicated Clinical Course Following Cataract Surgery

Postoperative Visits	History	Visual Acuity Unaided and With Pinhole[1]	External and Slip Lamp Exam	Refraction	Tonometry	Dilated Fundus Exam[4]	Managem Plan
#1 One day	Yes	Yes	Yes		Yes	If indicated by symptoms of very poor vision or retinal disease	Administer topical antibiotic/s counsel pat
#2 7 to 14 days Usually 1 week	Yes	Yes	Yes		Yes	If indicated by signs or symptoms of retinal disease	Continue a taper medication counsel pat
#3 3 to 4 weeks	Yes	Yes	Yes	Yes	Yes	Yes[5]	Continue a taper medication counsel pat prescribe refractive correction
#4[2] 6 to 8 weeks	Yes	Yes	Yes[3]	Yes	Yes	Yes[5]	Discontinue medication exam is no counsel pat prescribe/ refractive correction
#5 Subsequent visits 3 to 6 months	Yes	Aided visual acuity with pinhole		If vision is reduced	Yes	If indicated based on findings and symptoms[5]	Reschedule yearly eval or as neede

[1] Pinhole VA: assess if visual acuity worse than 20/30 unaided.
[2] Optional visit: some clinicians elect to schedule three postoperative visits, others four prior to determining a final spectacle prescription.
[3] Consider need to cut sutures if high astigmatism is present.
[4] Dilated fundus exam: provided at least once during the postoperative period.
[5]Check clarity of posterior capsule.

CLINICAL ALGORITHM(S)

An algorithm is provided for Optometric Management of the Adult Patient with Cataract.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Cataract is a common problem in an aging population. Reduced vision due to cataract can greatly affect the patient's ability to perform day-to-day activities. Proper care through both nonsurgical and surgical intervention can lead to improved productivity, reduction of personal suffering, and substantial cost savings for the affected individuals, their families, and the health care system as a whole.

Subgroups Most Likely to Benefit:

Risk factors for the development of cataract include:

- *Age*
- *Diabetes mellitus*. Persons with diabetes mellitus are at higher risk for cataracts, and persons with diabetes who have cataracts have a higher morbidity than those without cataracts.
- *Drugs*. Certain medications have been found to be associated with cataractogenesis and vision loss. There is an association between corticosteroids and posterior subcapsular cataracts. Drugs such as phenothiazine or other thiazines and chlorpromazine have been associated with the induction of cataract formation. Antihypertensive agents have not shown a high association with onset of cataract.
- *Ultraviolet radiation*. Studies have shown that there is an increased chance of cataract formation with unprotected exposure to ultraviolet (UV) radiation. These studies find that patients living in environments with high UV-B radiation levels have a higher incidence of cataract. Also, if not protected, persons with higher occupational exposure to UV light are at greater risk for cataract than those with lower occupational exposure rates.

- *Smoking*. An association between smoking and increased nuclear opacities has been reported.
- *Alcohol*. Several studies have shown increased cataract formation in patients with higher alcohol consumption compared with patients who have lower or no alcohol consumption.
- *Nutrition*. Although the results are inconclusive, studies have suggested an association between cataract formation and low levels of antioxidants (e.g., vitamin C, vitamin E, carotenoids). Further study may show that antioxidants have a significant effect on decreasing the incidence of cataract.

POTENTIAL HARMS

The risks associated with cataract surgery include serious complications (e.g., endophthalmitis) which may result in vision worse than that prior to surgery or in total vision loss. Other complications (e.g., cystoid macular edema or CME) may require additional medications or prolonged follow-up, but do not necessarily result in long-term vision loss.

Early emergent complications that may arise following cataract surgery include ocular hypertension, malignant glaucoma, would leak with shallow or flat anterior chamber, endophthalmitis, iris prolapse or vitreous in the wound, intraocular lens dislocation, retinal break and detachment. Early less-emergent complications include ptosis, diplopia, wound leak with well-formed anterior chamber, acute corneal edema, hyphema, anterior uveitis, intraocular lens decentration/pupillary capture, choroidal detachment, and anterior ischemic optic neuropathy. Intermediate to late complications include ptosis, diplopia, ocular hypertension or glaucoma, epithelial downgrowth, chronic corneal edema/corneal decompensation, late hyphema, chronic anterior uveitis, posterior capsular opacity, pseudophakic cystoid macular edema.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

Clinicians should not rely on this Clinical Guideline alone for patient care and management. Please refer to the references and other sources listed in the original guideline for a more detailed analysis and discussion of research and patient care information.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Clinical Algorithm

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1995 (revised 1999; reviewed 2004)

GUIDELINE DEVELOPER(S)

American Optometric Association - Professional Association

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Funding was provided by the Vision Service Plan (Rancho Cordova, California) and its subsidiary Altair Eyewear (Rancho Cordova, California)

GUIDELINE COMMITTEE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

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GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the American Optometric Association Web site.

Print copies: Available from the American Optometric Association, 243 N. Lindbergh, Blvd., St. Louis, MO 63141-7811

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

The following is available:

- Answers to your questions about cataracts. St. Louis, MO: American Optometric Association. (Patient information pamphet).

Print copies: Available from the American Optometric Association, 243 N. Lindbergh Blvd., St. Louis, MO 63141-7881; Web site, www.aoanet.org.

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NGC STATUS

This summary was completed by ECRI on December 2, 1999. The information was verified by the guideline developer as of January 31, 2000.

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