Complete Summary

GUIDELINE TITLE

Posterior vitreous detachment, retinal breaks, and lattice degeneration.

BIBLIOGRAPHIC SOURCE(S)

American Academy of Ophthalmology Retina Panel, Preferred Practice Patterns Committee. Posterior vitreous detachment, retinal breaks, and lattice degeneration. San Francisco (CA): American Academy of Ophthalmology (AAO); 2003. 17 p. [55 references]

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: American Academy of Ophthalmology (AAO), Preferred Practice Patterns Committee, Retina Panel. Management of posterior vitreous detachment, retinal breaks, and lattice degeneration. San Francisco (CA): American Academy of Ophthalmology (AAO); 1998. 24 p.

All Preferred Practice Patterns are reviewed by their parent panel annually or earlier if developments warrant.

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SCOPE

DISEASE/CONDITION(S)

Precursors to rhegmatogenous retinal detachment and the following related entities:

- Posterior vitreous detachment

- Retinal break without detachment
- Multiple retinal breaks without detachment
- Horseshoe tear without detachment
- Operculated break without detachment
- Round hole without detachment
- Retinal dialysis
- Lattice degeneration of the retina

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Treatment

CLINICAL SPECIALTY

Ophthalmology

INTENDED USERS

Health Plans
Physicians

GUIDELINE OBJECTIVE(S)

To prevent visual loss and functional impairment related to retinal detachment and to maintain quality of life by addressing the following goals:

- Identify patients at risk for rhegmatogenous retinal detachment (RRD)
- Examine patients with symptoms of acute posterior vitreous detachment (PVD) to detect and treat significant retinal breaks
- Manage patients at high risk for developing retinal detachment
- Educate high-risk patients about symptoms of posterior vitreous detachment, retinal breaks, and retinal detachments and about the need for periodic follow-up

TARGET POPULATION

- Individuals with symptoms or signs suggestive of posterior vitreous detachment (PVD) , retinal breaks, vitreous hemorrhage, or retinal detachment
- Asymptomatic individuals with an increased risk for retinal detachment

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis/Evaluation

1. Comprehensive adult eye examination and history
2. Examination of the vitreous for detachment, pigmented cells, hemorrhage, and condensation

3. Peripheral fundus examination with scleral depression
4. B-scan ultrasonography

Treatment

1. Cryotherapy
2. Laser photocoagulation

Management

1. Follow-up evaluations
2. Patient education

MAJOR OUTCOMES CONSIDERED

- Identification of patients at risk
- Prevention of visual loss and functional impairment
- Maintenance of quality of life

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

A detailed MEDLINE literature search for articles in the English language was conducted on the subject of posterior vitreous detachment, retinal breaks, and lattice degeneration for the years 1997 to 2002.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Ratings of Strength of Evidence

I. Level I includes evidence obtained from at least one properly conducted, well-designed randomized, controlled trial. It could include meta-analyses of randomized controlled trials.
II. Level II includes evidence obtained from the following:
    - Well-designed controlled trials without randomization

- Well-designed cohort or case-control analytic studies, preferably from more than one center
- Multiple-time series with or without the intervention

III. Level III includes evidence obtained from one of the following:
- Descriptive studies
- Case reports
- Reports of expert committees/organization
- Expert opinion (e.g., Preferred Practice Pattern panel consensus)

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The results of a literature search on the subject of posterior vitreous detachment, retinal breaks, and lattice degeneration were reviewed by the Retina Panel and used to prepare the recommendations, which they rated in two ways. The panel first rated each recommendation according to its importance to the care process. This "importance to the care process" rating represents care that the panel thought would improve the quality of the patient´s care in a meaningful way. The panel also rated each recommendation on the strength of the evidence in the available literature to support the recommendation made.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Ratings of Importance to Care Process

Level A, most important
Level B, moderately important
Level C, relevant but not critical

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

These guidelines were reviewed by Council and approved by the Board of Trustees of the American Academy of Ophthalmology (September 2003). All *Preferred Practice Patterns* are reviewed by their parent panel annually or earlier if developments warrant and updated accordingly.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The ratings of importance to the care process (A, B, C) and the ratings for strength of evidence (I, II, III) are defined at the end of the "Major Recommendations" field.

Diagnosis

The initial evaluation of a patient with risk factors or symptoms includes all features of the comprehensive adult medical eye evaluation, with particular attention to those aspects relevant to posterior vitreous detachment (PVD), retinal breaks, and lattice degeneration.

History

- Symptoms of PVD [A:I]
- Family history [A:II]
- Prior eye trauma, including surgery [A:II]
- Myopia [A:II]
- History of cataract surgery [A:II]

Examination

- Examination of the vitreous [A:III] for detachment, pigmented cells, hemorrhage, and condensation
- Peripheral fundus examination with scleral depression [A:III]

There are no symptoms that can reliably distinguish PVD with an associated retinal break from PVD without an associated retinal break; therefore, a peripheral retinal examination is required. [A:III] The preferred method of evaluating peripheral vitreoretinal pathology is with indirect ophthalmoscopy combined with scleral depression.

Diagnostic Tests

If it is impossible to evaluate the peripheral retina, B-scan ultrasonography should be performed to search for retinal tears or detachment and for other causes of vitreous hemorrhage. [A:II]

Treatment

The table below summarizes recommendations for management.

Type of Lesion	Treatment
Acute symptomatic horseshoe tears	Treat promptly [A:II]
Acute symptomatic operculated tears	Treatment may not be necessary [A:III]
Traumatic retinal breaks	Usually treated [A:III]
Asymptomatic horseshoe tears	Usually can be followed without treatment [A:III]
Asymptomatic operculated tears	Treatment is rarely recommended [A:III]
Asymptomatic atrophic round holes	Treatment is rarely recommended [A:III]
Asymptomatic lattice degeneration without holes	Not treated unless PVD causes a horseshoe tear [A:III]
Asymptomatic lattice degeneration with holes	Usually does not require treatment [A:III]
Asymptomatic dialyses	No consensus on treatment and insufficient evidence to guide management
Fellow eyes with atrophic holes, lattice degeneration, or asymptomatic horseshoe tears	No consensus on treatment and insufficient evidence to guide management

Treatment of peripheral horseshoe tears should be extended well into the vitreous base, even to the ora serrata. [A:II] The surgeon should inform the patient of the relative risks, benefits, and alternatives to surgery. [A:III] The surgeon has the responsibility for formulating a postoperative care plan and should inform the patient of these arrangements. [A:III]

Follow-up

The guidelines in the table below are for routine follow-up in the absence of additional symptoms. Patients with no positive findings at the initial examination should be seen at the intervals recommended in the Comprehensive Adult Medical Eye Evaluation Preferred Practice Pattern (PPP). [A:III] All patients with risk factors should be advised to contact their ophthalmologist promptly if new symptoms such as flashes, floaters, peripheral visual field loss, or decreased visual acuity develop. [A:II]

Type of Lesion	Follow-up Interval
Symptomatic PVD with no retinal break	Depending on symptoms, risk factors, and amount of vitreous traction, patients should be followed in 1 to 6 weeks
Acute symptomatic horseshoe tears	1 to 2 weeks after treatment, then 4 to 6 weeks, then 3 to 6 months, then annually
Acute symptomatic operculated tears	2 to 4 weeks, then 1 to 3 months, then 6 to 12 months, then annually
Traumatic retinal breaks	7 to 14 days after treatment, then 4 to 6 weeks, then 3 to 6 months, then annually
Asymptomatic horseshoe tears	1 to 4 weeks, then 2 to 4 months, then 6 to 12 months, then annually
Asymptomatic operculated tears	2 to 4 weeks, then 1 to 3 months, then 6 to 12 months, then annually
Asymptomatic atrophic round holes	Annually
Asymptomatic lattice degeneration without holes	Annually
Asymptomatic lattice degeneration with holes	Annually
Asymptomatic dialyses	If untreated, 1 month, then 3 months, then 6 months, then every 6 months If treated, 1 to 2 weeks after treatment, then 4 to 6 weeks, then 3 to 6 months, then annually
Fellow eyes with atrophic holes, lattice degeneration, or asymptomatic horseshoe tears	Every 6 to 12 months

History

- Visual symptoms [A:I]
- Interval history of eye trauma, including intraocular surgery [A:I]

Examination

- Measurement of visual acuity [A:III]
- Evaluation of the status of the vitreous, with attention to the presence of pigment or syneresis [A:II]
- Examination of the peripheral fundus with scleral depression [A:II]
- B-scan ultrasonography if the media is opaque [A:II]

Provider

It is essential that ancillary clinical personnel be familiar with the symptoms of PVD and retinal detachment so that symptomatic patients can gain prompt access to the health care system. [A:II]

Patients with symptoms of possible or suspected PVD or retinal detachment and related disorders should be examined promptly by an ophthalmologist skilled in binocular indirect ophthalmoscopy and supplementary techniques. [A:III] Patients with retinal breaks or detachments should be treated by an ophthalmologist with experience in the management of these conditions. [A:III]

Counseling/Referral

Patients at high risk of developing retinal detachment should also be educated about the symptoms of PVD and retinal detachment as well as about the value of periodic follow-up examinations.[A:II]

All patients at increased risk of retinal detachment should be instructed to notify their ophthalmologist promptly if they have a significant change in symptoms, such as a significant increase in floaters, loss of visual field, or decrease in visual acuity. [A:III]

Definitions:

Ratings of Importance to Care Process

Level A, most important
Level B, moderately important
Level C, relevant but not critical

Ratings of Strength of Evidence

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    - Descriptive studies

- Case reports
- Reports of expert committees/organization
- Expert opinion (e.g., Preferred Practice Pattern panel consensus)

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations.")

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

When untreated, patients with symptomatic rhegmatogenous retinal detachment will progressively lose vision in the involved eye. There is a substantial economic benefit to society of preventing retinal detachments or limiting their extent, and therefore maintaining the ability of its citizens to read, work, drive, and care for themselves.

POTENTIAL HARMS

- The treatment of peripheral retinal abnormalities can be performed using a variety of anesthesia techniques that include general anesthesia and local (regional) anesthesia (e.g., retrobulbar, peribulbar, periocular, sub-Tenon's injection, or topical). Sedation may be used with local anesthesia to minimize pain, anxiety, and discomfort. Complications of periocular injection of anesthesia include hemorrhage and globe perforation. Retrobulbar anesthesia, while not required, has complications that include strabismus, globe perforation, retrobulbar hemorrhage, and macular infarction.
- Epiretinal membrane proliferation (macular pucker) has been observed after treatment, but the association of treatment with epiretinal membrane formation is uncertain. In one long-term follow-up study, the percentage of eyes developing macular pucker after treatment of retinal breaks was no greater than the percentage of eyes observed to have macular pucker before treatment. In any case, the method of creating a chorioretinal adhesion appears to be unrelated to the incidence of postoperative macular pucker. Extensive cryotherapy can be harmful.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- Preferred Practice Patterns provide guidance for the pattern of practice, not for the care of a particular individual. While they should generally meet the

needs of most patients, they cannot possibly best meet the needs of all patients. Adherence to these Preferred Practice Patterns will not ensure a successful outcome in every situation. These practice patterns should not be deemed inclusive of all proper methods of care or exclusive of other methods of care reasonably directed at obtaining the best results. It may be necessary to approach different patients´ needs in different ways. The physician must make the ultimate judgment about the propriety of the care of a particular patient in light of all of the circumstances presented by that patient. The American Academy of Ophthalmology is available to assist members in resolving ethical dilemmas that arise in the course of ophthalmic practice.

- Preferred Practice Patterns are not medical standards to be adhered to in all individual situations. The Academy specifically disclaims any and all liability for injury or other damages of any kind, from negligence or otherwise, for any and all claims that may arise out of the use of any recommendations or other information contained herein.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Patient Resources
Personal Digital Assistant (PDA) Downloads
Quick Reference Guides/Physician Guides

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)

American Academy of Ophthalmology Retina Panel, Preferred Practice Patterns Committee. Posterior vitreous detachment, retinal breaks, and lattice

degeneration. San Francisco (CA): American Academy of Ophthalmology (AAO); 2003. 17 p. [55 references]

ADAPTATION

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

DATE RELEASED

1998 Sep (revised 2003)

GUIDELINE DEVELOPER(S)

American Academy of Ophthalmology - Medical Specialty Society

SOURCE(S) OF FUNDING

American Academy of Ophthalmology

GUIDELINE COMMITTEE

Preferred Practice Patterns Committee; Retina Panel

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

No proprietary interests were disclosed by members of the Preferred Practice Patterns Retina Panel for the past 3 years up to and including June 2003 for product, investment, or consulting services regarding the equipment, process, or products presented or competing equipment, process, or products presented.

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GUIDELINE AVAILABILITY

Electronic copies: Available from the American Academy of Ophthalmology (AAO) Web site.

Print copies: Available from American Academy of Ophthalmology, P.O. Box 7424, San Francisco, CA 94120-7424; telephone, (415) 561-8540.

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Summary benchmarks for preferred practice patterns. San Francisco (CA): American Academy of Ophthalmology; 2006 Nov. 21 p.

Available in Portable Document Format (PDF) from the American Academy of Ophthalmology (AAO) Web site.

Print copies: Available from American Academy of Ophthalmology, P.O. Box 7424, San Francisco, CA 94120-7424; telephone, (415) 561-8540.

PATIENT RESOURCES

The following patient education brochure is available:

- Detached and torn retina (1998)

Print copies: Available from the American Academy of Ophthalmology (AAO), P.O. Box 7424, San Francisco, CA 94120-7424; Phone: (415) 561-8540.

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NGC STATUS

This summary was completed by ECRI on February 20, 1999. The information was verified by the guideline developer on April 23, 1999. This summary was updated again on April 30, 2004. The information was verified by the guideline developer May 20, 2004.

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