QUICK REFERENCE GUIDE

Care of the Patient with Retinal Detachment and Related Peripheral Vitreoretinal Disease

American Optometric Association

A. DESCRIPTION AND CLASSIFICATION

A retinal detachment is a separation of the sensory retina from the underlying retinal pigment epithelium. Table 1 provides an overview of the clinical classification of retinal detachment, retinal breaks, and related peripheral vitreoretinal disease.

B. RISK FACTORS

1. Retinal Detachment

- ❑ High myopia
- ❑ Aphakia or pseudophakia
- ❑ Ocular trauma
- ❑ Surgical loss of vitreous
- ❑ Retinal breaks
- ❑ Lattice retinal degeneration
- ❑ Glaucoma
- ❑ Personal or family history of retinal detachment

2. Retinal Breaks

Risk factors vary according to the type of break:

- ❑ Atrophic holes (lattice retinal degeneration, myopia)
- ❑ Retinal tears (posterior vitreous detachment [PVD], aphakia or pseudophakia, high myopia, vitreoretinal degeneration, trauma)
- ❑ Retinal dialysis (congenital factors, active in sports or occupations prone to head trauma)

3. Related Peripheral Vitreoretinal Disease

Risk factors vary with the specific disease:

- ❑ Lattice retinal degeneration (high myopia)
- ❑ Snail-track degeneration (high myopia, heredity, familial tendency)
- ❑ White-without-pressure (vitreous degeneration, high myopia)
- ❑ Peripheral pigmentary degeneration and pigment clumping (high myopia and other conditions that cause vitreous degeneration)
- ❑ PVD (aging, aphakia, myopia, vitreoretinal degeneration, ocular trauma, or uveitis)
- ❑ Retinoschisis (aging)

C. COMMON SIGNS, SYMPTOMS, AND COMPLICATIONS

1. Retinal Detachment

- ❑ Early symptoms may include photopsia and/or a sudden shower of floaters.
- ❑ If untreated, may progress resulting in the perception of a shadow or curtain moving over vision and significant loss of central vision.
- ❑ A detachment of recent onset easily undulates during eye movements; longstanding detachments do not undulate due to scarring and contraction of the degenerating retina.

NOTE: This Quick Reference Guide should be used in conjunction with the Optometric Clinical Practice Guideline on Care of the Patient with Retinal Detachment and Related Peripheral Vitreoretinal Disease (Reviewed 2004). It provides summary information and is not intended to stand alone in assisting the clinician in making patient care decisions.

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2. Retinal Breaks

- ❑ Sudden onset of numerous floaters and photopsia are hallmarks of a potential retinal tear.
- ❑ Presence of pigment cells is noted in the anterior vitreous cavity (tobacco dust/Shafer's sign).
- ❑ Complications may include vitreous hemorrhage, which is generally small, transient, and resolves without significant sequelae, and retinal detachment.

D. EARLY DETECTION AND PREVENTION

Early detection and treatment of a retinal tear may help to prevent the formation of a retinal detachment or the expansion of a pre-existing detachment and can help reduce the risk of vision loss associated with larger or more central detachments. A detachment that is detected early will more likely require less extensive surgery, resulting in a more successful reattachment. The most important reason for early detection is to prevent involvement of the posterior pole and detachment of the macula.

E. EVALUATION

Evaluation of patients with retinal detachment or related peripheral vitreoretinal disease includes the elements of a comprehensive eye and vision examination with particular emphasis on the following areas:

1. Patient History

The patient's present and past ocular and systemic health history should be reviewed and the following information elicited:

- ❑ Loss of vision
- ❑ Sudden, recent onset of floaters
- ❑ Flashing lights
- ❑ Loss of peripheral visual field
- ❑ Family members with vision loss or history of retinal disease
- ❑ History of trauma, vitreous or retinal disease, or intraocular surgery

2. Ocular Examination

- ❑ Best corrected visual acuity
- ❑ Pupillary responses
- ❑ Biomicroscopy
- ❑ Visual field screening (confrontation)
- ❑ Binocular indirect ophthalmoscopy, generally with papillary dilation, and scleral indentation, if indicated
- ❑ Retinal drawing or photodocumentation, if indicated

3. Supplemental Testing

Supplemental testing, that may be necessary to document the extent of functional disability, the presence of coexisting eye disease, and the potential for improvement, may include:

- ❑ Contrast sensitivity and/or glare testing
- ❑ Potential acuity testing
- ❑ Threshold visual fields or Amsler grid
- ❑ Specialized color vision testing
- ❑ Electrophysiology
- ❑ Corneal pachymetry
- ❑ B-Scan ultrasonography
- ❑ Tonography

F. MANAGEMENT

The optometric management of the patient with retinal detachment and peripheral vitreoretinal disease is summarized in Table 2.

1. Retinal Detachment

Initial management of the patient with retinal detachment includes restriction of physical activity and reduction in eye movement. In some cases, bilateral patching can reduce the potential effect of inertial forces caused by head and eye movements that could increase the extent of the detachment. Following the diagnosis of significant retinal detachment, immediate referral to a retina specialist should be made. Alternative treatments for creating an effective chorioretinal adhesion to prevent leakage of fluid between the sensory retina and underlying pigment epithelium and to limit the effects of vitreous traction on the retinal surface include:

- Laser photocoagulation
- Cryotherapy
- Scleral buckle
- Pneumatic retinopexy
- Expanding gases
- Air injection
- Silicone oil injections
- Vitrectomy

2. Retinal Breaks

Management of the patient with retinal holes and/or tears varies with the type and severity of the retinal break, whether they are asymptomatic or symptomatic, the absence or presence of observable vitreous traction, and if the patient is at risk for developing retinal detachment. Most asymptomatic tears and atrophic retinal holes can generally be followed without treatment. The patient with a symptomatic PVD should be followed at least every 2-3 weeks until the condition becomes asymptomatic and no retinal tears can be found. A consultation with a retina specialist or general ophthalmologist for possible treatment may be needed.

3. Patient Education

The patient should be informed about the symptoms of a retinal detachment, retinal tear, or related peripheral vitreoretinal disease and advised to return immediately if the symptoms occur. Prompt recognition of symptoms will increase the chances for successful surgery and better postoperative visual acuity.

4. Prognosis and Followup

The prognosis for retinal detachment and related peripheral vitreoretinal disease depends on the type and severity of the condition:

- Retinal Detachment – Prognosis is poorer the longer the detachment exists and very poor when the detachment involves the macula.
- Retinal Breaks – Prognosis for atrophic holes and operculated tears is good due to their low propensity to progress to retinal detachment.
- Horseshoe or linear tears have a guarded prognosis due to their high probability to progress to retinal detachment.
- Prognosis for retinal dialysis is poor due to the high propensity to progress to retinal detachment.

The need for followup also depends on the type and severity of the condition. The frequency and composition of followup visits for specific conditions are summarized in Table 2.