

How to deal with a patient complaining of Flashes and Floaters

Executive summary

Optometrists often encounter patients who complain of floaters and/or flashing lights. The optometrist has to make a decision as to whether to examine these patients. **If the optometrist decides to examine the patient he or she should perform an examination appropriate to the patient's needs.** If they are unable to do this they must refer the patient to someone who is able to perform an adequate examination. There are a number of key risk factors that can be elucidated by taking a careful history, symptoms and looking for the signs during the examination.

If a retinal break or tear is suspected as a **minimum** the examination should include:

- history and symptoms, looking for particular risk factors
- a dilated fundal examination using an indirect viewing technique
- an examination of the anterior vitreous to look for pigment cells.
- giving appropriate advice (ideally supplemented by a written information sheet) to the patient

Tonometry can also be useful in these patients, as a reduction in IOP may be linked to a detachment. A visual field examination may also be useful for confirmatory purposes, particularly if the optometrist is unable to examine the peripheral retina.

Certain signs will require emergency referral. These include:

- pigment in the anterior vitreous (tobacco dust)
- vitreous, retinal or pre-retinal haemorrhage
- lattice degeneration or retinal break (with symptoms)
- operculum (free or attached)
- retinal detachment

A retinal hole / tear does not always lead to retinal detachment and lattice degeneration does not always progress. It would be appropriate, however, to refer if the symptoms are obvious and any of the signs above are present.

If the symptoms are stable and new floaters have been around for more than 2-3 months, are not progressing, vision is good, there is no field loss, the retina appears stable and the patient is well informed of what to expect if the retina does break the ongoing management could be provided by the optometrist in his or her practice.

Most cases of floaters are due to posterior vitreous detachment (PVD) or vitreous degeneration so this would apply even with a recent PVD. The recall interval would be dependant on the duration of symptoms. Example re-examination times would be:

Symptom duration	Suggested recall interval
Recent onset	2-3 months
3 months	6 months
More than 1 year	Annual or every 2 years

It is crucial to be sure that the examination has been appropriate, that the patient is properly informed of what is going on and that adequate recall procedures are in place.

Purpose of this document

The aim of this document is to help optometrists decide how to manage patients who consult them complaining of flashes and/or floaters. The document begins with an introduction as to how these patients should be advised. It follows with some examples of patients who are at a higher risk of developing a retinal break or detachment. Methods of ocular examination are then discussed, followed by suggestions for the clinical management of these patients including when and where to refer. The final section relates to medico-legal defence.

Introduction and background

Optometrists often encounter patients who complain of floaters and/or flashing lights. The optometrist has to make a decision as to whether to examine these patients.

If there is a local protocol in place for seeing these patients, this should be followed.

A careful peripheral retinal examination (and the other necessary investigative techniques) takes both time and expertise. If a patient requests an examination because they are noticing flashes and/or floaters it is not in their best interests for the optometrist to conduct a rushed or inadequate examination. This may lead to them being given a false sense of security. If the optometrist cannot examine the patient, because the patient is unable to attend the practice, because of time constraints or because the optometrist feels uncomfortable with their level of training and expertise in this area, they should direct the patient to someone who can conduct the examination to an appropriate standard. In cases where the examination would be private and the patient does not wish to pay, they should be directed to an appropriate facility with an appropriate degree of urgency.

In many cases if a retinal break, tear or detachment is suspected this means that the patient should normally be directed to the local eye casualty department (or referred urgently according to local arrangements where these exist).

Optometrists should always act in the best interests of their patients; and a patient with a retinal detachment will need an urgent referral. However the majority of those presenting with flashes and/or floaters will not have a retinal detachment. Referral in such cases simply to avoid examining them might well be seen as failing the patient and you should therefore take some steps to at least decide on the urgency of referral.

If the patient phones the practice they will not always get to speak to the optometrist, so it is crucial that support staff are also instructed on how to deal with such a patient. This may be determined by local protocols, or by the optometrist training his/her support staff as to how to advise these patients. Patients should be told that it is very unwise to reach a diagnosis without the patient having first been examined.

Once you have decided to examine the patient you are committed to continuing until you detect a problem and can make a diagnosis or you accrue sufficient evidence to make a considered decision on what action to take next. Examination will require a more detailed assessment of symptoms to assist in a preliminary **differential diagnosis**. For example, if the flashing light is seen in both eyes (same hemisphere) without eye movement and is seen at all lighting levels (even in daylight) accompanied or followed by nausea and/or headache or other symptoms then migraine may be a more likely cause. Other possible causes such as ocular vascular disease, macular disease etc. need to be ruled out, as does any optical problem that the patients might be reporting (such as a light reflex from a spectacle lens or posterior sub-capsular cataract).

The optometrist should take note of predisposing conditions that might increase the likelihood of retinal problems. These include:

1. Are the floaters of recent onset and are they intermittent or permanent?
2. Are the floaters associated with photopsiae?
3. Is there a sudden shower of floaters?
4. Is the patient in a high-risk group?
5. Is there a history of head trauma?
6. Is there a field defect or a reduction in visual acuity?

A patient in whom a retinal break, tear or detachment is suspected will require slit lamp examination of the vitreous for visible floaters (Weiss ring) or pigment in the anterior vitreous (Shafer's sign) and retinal examination using indirect ophthalmoscopy which will require a dilated pupil. Other tests such as tonometry and visual field assessment may be considered for confirmatory purposes, particularly if the optometrist is unable to obtain a satisfactory view of the peripheral retina.

10-34% of eyes with light flashes and floaters have retinal breaks (quoted in Boldrey 1983, Hikichi and Trempe 1994). Symptomatic breaks progress to detachment in 33-46% of cases if left untreated (Davis 1974). It is not acceptable for the optometrist to perform an inadequate examination and thereby give the patient, in whom there is an undetected retinal break, tear, or detachment a false sense of security which may delay them seeking appropriate medical treatment. In the presence of these symptoms an examination with a direct ophthalmoscope whether through dilated or undilated pupil is inadequate.

Regardless of the method of examination performed, the optometrist should always inform the patient that if their symptoms worsen they should seek immediate medical advice; this should be supported by written information such as an information leaflet.

Patients who are at a higher risk of developing retinal tears or detachments:

1. Are the floaters of recent onset and are they intermittent or permanent?

Most patients will experience some floaters periodically, particularly in certain lighting conditions and these are normally harmless.

Hikichi and Trempe (1994) found retinal breaks in only 5% of those patients with symptoms of floaters alone. Diamond (1992) found that patients who complained of isolated unioocular floaters had an insignificant incidence of retinal breakage and could safely be reviewed as routine outpatients.

If the symptoms have been present for longer than 2 months the patient is less likely to have a retinal break than if they are of recent onset. Diamond (1992) found that all patients with retinal breaks had had their symptoms for less than one month, and Dayan et al (1996) found that a subjective reduction in vision and a history of less than 6 weeks duration tended to predict the presence of a retinal break. However, formation of delayed retinal breaks is not unknown (Kanski, 1975) and so patients should be advised to re-attend if their symptoms worsen.

Permanent floaters are more of a concern than intermittent ones.

2. Are there photopsiae present?

An association between the symptoms of flashing lights and retinal breaks has been found by some researchers, particularly if the flashes occur with other symptoms such as floaters (Hikichi and Trempe 1994, Richardson et al 1999). However, other researchers (Diamond, 1992, Tanner et al 2000) have found that there is no strong association between the two and it is not possible to predict those patients with a retinal break secondary to PVD on the basis of symptomatology alone.

3. Is there a sudden shower of floaters, or are they getting worse?

Patients with a vitreous haemorrhage following symptomatic PVD should be considered to have a retinal break until proved otherwise (Richardson et al 1999). If the patient has more than, say, 10 floaters they could be considered at higher risk of retinal detachment.

4. Is the patient in a high risk group for retinal break or detachment?

High-risk groups include:

- myopes (over $-3D$), although patients who are not myopic can develop a detachment
- patients who have previously had a detachment in the same or other eye.
- patients who have had intra-ocular surgery (e.g. those who are aphakic or pseudophakic)
- patients who have a history of retinal disease such as lattice or other retinal degeneration (Kanski 1999)
- patients over the age of 50, although patients of all ages can develop a retinal break
- patients who have a strong family history of retinal detachment
- patients with certain systemic disease such as Marfans syndrome (Kanski 1999)

5. Is there a history of head trauma?

Patients who have suffered recent head trauma should be considered as being at a higher risk of developing a retinal break or detachment.

6. Is there a reduction in visual acuity or field defect?

Patients with symptomatic retinal tears are significantly more at risk of a retinal detachment (Alwitary et al 2002). Patients who notice a 'cloak', 'veil', 'cloud' or 'curtain' in their vision should be viewed at high risk of retinal detachment.

Ocular examination

Shafer's sign

In all patients in whom the optometrist suspects a retinal tear, examination of the anterior vitreous (though a dilated pupil) should be performed. The appearance of pigment cells is pathognomonic of a retinal break or tear. As some optometrists will not be familiar with the appearance of this, optometrists may wish to attend their local eye department to see if they can examine patients in whom this sign is present, or see the sign on a good video of a patient with the sign ¹.

¹ Shaeffers sign can often be seen in patients who have had recent intraocular surgery.

Methods of fundal examination

For an adequate examination of the peripheral retina, the appropriate technique must be used and this will always require dilation. Tropicamide alone will provide adequate dilation in most patients although in some cases phenylephrine may be required as well.

A direct ophthalmoscope, even through a dilated pupil, will only allow visualisation up to the posterior equatorial area due to vignetting. Do not get fooled into thinking you can see further. This is not adequate for eliminating the possibility of peripheral retinal breaks, tears or detachments.

A headset BIO, gives a field of view of up to 60 degrees with a 20D lens (up to 75 degrees with a 30D), but this may still miss some of the peripheral retina unless an indentation method is used.

A slit-lamp examination with a wide-field non-contact condensing lens provides a wider field of view, but this may still not be adequate to detect peripheral tears. Fields of view with typical lenses are quoted as (from www.volk.com):

Type of lens	Quoted f.o.v. (static/dynamic)
Volk 66D	89/96
Volk 78D	81/97
Volk 90D	74/89
Volk Superfield	95/116
Volk Super Vitreo Fundus	103/104
Volk Super Pupil	103/124

The gold standard specialist examination of the fundus is with a 3 mirror contact fundus viewing lens or headset indirect with scleral indentation. This enables the entire retina to be seen up to the ora. Use of this lens is unlikely to be part of routine optometric practice, and the competence to use it may not be commonplace in casualty departments either. The optometrist should therefore make a reasoned judgement, depending upon the presenting signs and symptoms detailed above, as to whether or not to refer the patient for such an examination.

Frequently the optometrist is looking for evidence to confirm heightened suspicion not frank lesions.

Clinical management

The incidence of retinal breaks in patients aged 10 years or more who do not have any history of ocular disease is 6-14% (Byer 1967). The incidence of retinal detachment is approximately 12/100,000 of the general population per year (Haiman et al 1982). This equates to each practitioner seeing a retinal detachment approximately every 1.3 years. Haiman's figures suggest that less than 0.2% of people with a retinal break eventually have a detachment of the retina and Gupta and Prasad (2001) noted that only a minority of retinal breaks will go on to cause a retinal detachment. Byer (1998) found that PVD did not have any harmful effect on pre-existing retinal breaks. Gupta and Prasad suggest that all patients presenting with posterior vitreous detachment, no vitreous pigment, and no retinal tears or holes at initial examination can be safely discharged with an explanation of the warning symptoms which should prompt the patient to re-attend.

Alwitary et al (2002) suggest that all patients presenting with a new onset of flashes and or floaters should, if possible, undergo a dilated funduscopy ideally by Volk

lens. Patients should be questioned about the presence of a subjective visual field defect and if they notice one they should be referred to Eye Casualty or similar. The presence of pigment in the vitreous in patients with new symptoms is an indication for immediate hospital referral to Eye Casualty or similar, as is the presence of a vitreous haemorrhage. All patients should be counselled that if they should develop a visual field defect they should attend Eye Casualty or similar.

Referral

It is wise to know the local hospital arrangements for dealing with a patient with a suspect retinal tear or detachment. If the optometrist suspects the patient may have a retinal tear he should either refer the patient to the local A&E service or as per local arrangements, advising the patient that he will be dilated and so will not be able to drive home from the hospital. Some areas will have a dedicated service to see these patients. Some provincial HES departments do not routinely manage RD surgery and refer on to tertiary centres with obvious delay (Quinn et al 2004). This may suggest that if the optometrist is unable to examine the patient immediately, they should refer the patient on rather than add to any delay.

Information leaflets

In all cases it is useful to have practice or other leaflets available to hand to the patients explaining what floaters are, and the likely signs or symptoms of a retinal detachment. If the patient feels that their symptoms are worsening they should be urged to seek urgent medical attention. The Association of Optometrists produces a suitable information leaflet².

Record keeping

Optometrists are reminded to keep full and accurate records of all patient encounters. This includes when the patient is spoken to on the telephone (by the optometrist or another member of staff) as well as when they are in the consulting room. All advice that is given to the patient should be carefully noted, together with any information that was given to the patient in writing such as a referral letter or information leaflet(s). Negative as well as positive findings should be noted (e.g. 'no retinal tears or breaks seen').

Medico-legal defence

If a patient detaches some time after having had a thorough dilated examination with an indirect method the defence would be that the condition was not ordinarily apparent at the time of examination. The complainant would have to prove that the condition was definitely present and that the optometrist was incompetent at undertaking the indirect technique used.

If the patient detaches at any time after having had an examination with a direct instrument whether dilated or not the defence would be more difficult as it could be argued that the examination technique was not adequate.

² www.aop.org.uk/uploaded_files/flashes_and_floaters_px_info_sheet_final_jan053.pdf

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