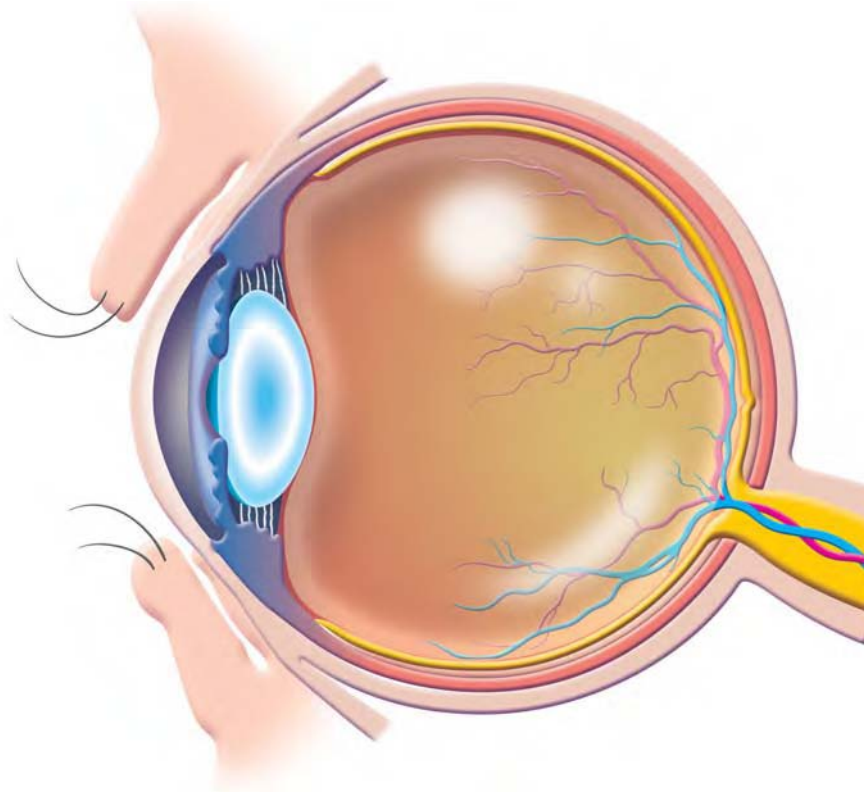


Fast Facts



Fast Facts: Ophthalmology

Anthony Pane and Peter Simcock





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Declaration of Independence

This book is as balanced and as practical as we can make it.

Ideas for improvement are always welcome:

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Glossary	4
Introduction	7
Eye examination	9
Red eye	22
Blurred vision	32
Double vision	45
Other important symptoms	50
Gritty, itchy or watery eyes	56
Abnormal eye appearance	59
Eyelid disease	71
Children's eye problems	81
Eye trauma	87
Useful resources	96
Index	98

Glossary

Amaurosis fugax: transient, painless loss of vision in one eye with complete recovery of vision, usually within minutes; most commonly caused by embolism from a stenosed carotid artery

Amblyopia: reduced vision in an eye that has not functioned well during early childhood; most often occurs as a result of eye misalignment or focusing error that is not identified and treated early in childhood

Anisocoria: unequal pupil size

ARMD: age-related macular degeneration – a degenerative condition of the macula (central retina), which results in a deterioration of central vision

Blepharitis: inflammation of the eyelids

Chalazion: a slow-growing lump on the eyelid caused by inflammation of oil glands

Ectropion: the lower eyelid is turned out and hangs away from the eyeball

Entropion: the lower eyelid is turned in, with the eyelashes rubbing on the eyeball

Epiphora: watering of one or both eyes, without eye pain, irritation or redness

Exophthalmos: another term for proptosis (see below)

Foreign body sensation: the patient says ‘It feels like something is in my eye’; causes include corneal or conjunctival foreign body, foreign body under the upper lid, inturned eyelashes, corneal ulcer or corneal abrasion

Hemianopia: loss of vision in one half of the visual field of one or both eyes, across to the vertical midline; this often signifies disease of the brain’s visual pathways

Hyphema: collection of blood in the anterior chamber of the eye (between the iris and cornea)

Hypopyon: collection of pus in the anterior chamber of the eye

Iritis: autoimmune inflammation in the anterior chamber of the eye

Metamorphopsia: the visual symptom of distortion of straight lines or shapes

Papilledema: swelling of both optic nerve heads caused by increased intracranial pressure (e.g. due to a brain tumor)

Proptosis: forward displacement of the eye (causing a ‘bulging’ appearance)

Ptosis: drooping upper eyelid

RAPD: relative afferent pupillary defect – an abnormal response to the swinging light test, signifying serious retinal or optic nerve disease

Scotoma: absent or diminished vision in an isolated area of the visual field

Slit-lamp microscope: table-mounted microscope with attached light that enables examination of the surface and interior of a patient’s eye at high magnification

Thyroid eye disease: orbital disease associated with idiopathic hyperthyroidism (Graves' disease), which can cause red eyes, lid retraction, proptosis, or double or blurred vision

TIA: Transient ischemic attack – a brief episode of neurological disturbance caused by a reduced supply of blood to an area of the brain

VA: visual acuity – clarity of central vision, measured on a vision chart, one eye at a time

Visual field: the total area visible with one eye, without moving the eye

Introduction

As a primary care provider you will not find it possible to diagnose the majority of eye diseases accurately. This is because the eye is so small and so complex that only careful examination with a slit-lamp microscope and a retinal lens can provide a true diagnosis of most patients' eye complaints.

So what can you do? Patients see you almost every day with eye problems and expect you to be able to help them. This book will help you triage your eye patients into three groups:

- those with serious eye emergencies, who require urgent referral to an ophthalmologist (to be seen the same day)
- those who do not have urgent problems, but require routine referral
- those you can either observe or treat yourself.

Fortunately, a brief history and examination (even with just a visual acuity chart and a flashlight) can almost always differentiate between these three groups. However, you have to know what to ask and what to look for to determine the urgency of each case.

This book is organized by patient presentation (e.g. red eye, blurred vision, double vision) rather than by disease, to facilitate rapid reference in clinical practice. Each chapter describes the essential management steps for each presenting symptom, in terms of referral or treatment options, followed by an overview of the common eye diseases that can cause such symptoms. Important issues are summarized in the key points at the end of each chapter.

Ophthalmology is one of the most difficult areas of primary care and is full of pitfalls for even the most diligent of doctors. We hope this book helps you avoid the traps.

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You only have a few minutes with each patient who comes to see you with an eye complaint, and (if you're a general practitioner) you probably have very little eye examination equipment. A careful history of the patient's eye symptoms plus looking for a few critical signs of serious disease will help you identify how urgently the patient should be referred to an ophthalmologist, or whether you can treat them yourself.

Eye anatomy

The eye, its surrounding structures and the brain's visual pathways can be affected by a wide spectrum of clinical conditions. Fortunately, the cornea and the ocular media are transparent, so most of the eyeball itself can be observed directly for signs of abnormality. Figure 1.1 depicts the essential components of the eye's optical system, many of which are referred to throughout the rest of this book. The main stages of an eye assessment are listed in Table 1.1 and are discussed in more detail below.

Taking a history

When a patient presents with an eye complaint, you will need to find out the exact nature and severity of the problem. Questions to ask include:

- Do you have blurred vision, and if so, is it in one or both eyes?
- Which part of the vision is affected?
- How sudden was the onset?
- What has happened since – has it improved, worsened or stayed the same?
- Do you have any other eye symptoms, for example, pain, sensitivity to light, flashes or floaters?

You will then need to ask about:

- the patient's ophthalmic history
- the patient's medical and surgical history
- the medications they are currently taking
- any family history of eye problems.

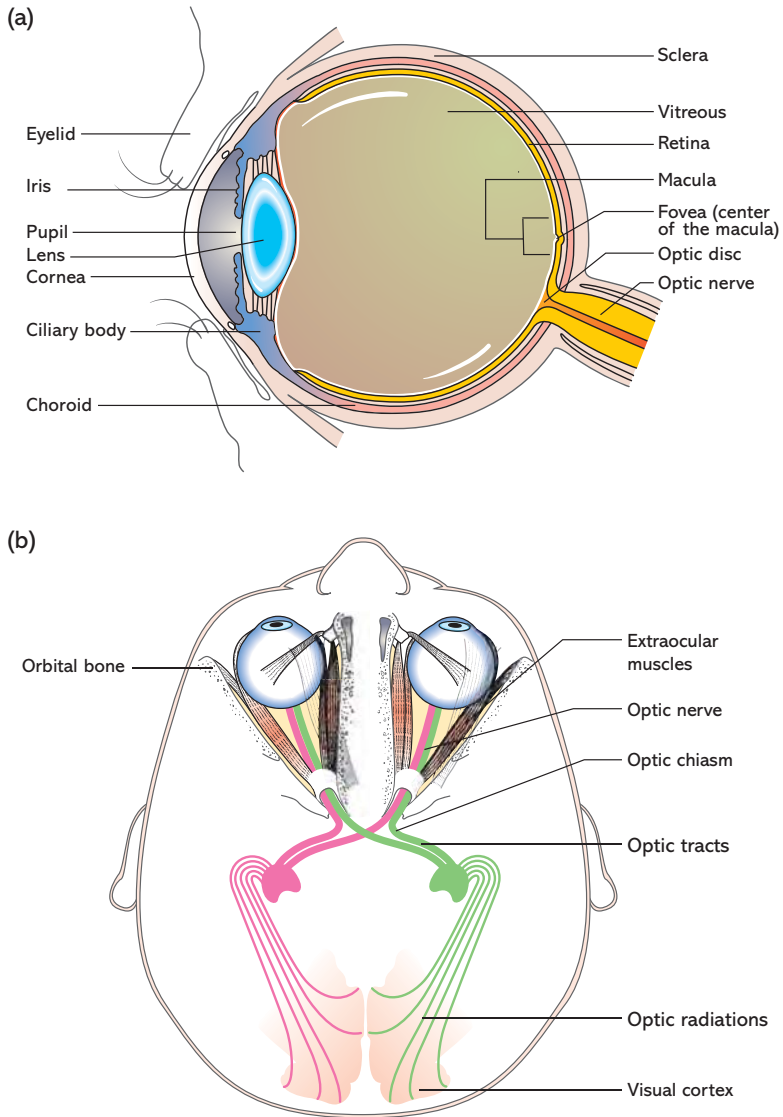


Figure 1.1 Basic eye anatomy. (a) Main eye structures. (b) View from above, showing the visual pathway. Information leaves the eye via nerve fibers that form the optic nerve. The fibers partially cross at the optic chiasm, then continue as the optic tracts, before fanning out as optic radiations to reach the visual cortex at the back of the brain.

3 Blurred vision

The most common causes of blurred vision are refractive error (in the young) and cataract (in the elderly). However, blurred vision can also be the presenting symptom of potentially blinding intraocular disease such as retinal detachment, or potentially fatal extraocular disease such as vasculitis, brain tumor or stroke.

Referral

It is essential to be able to clinically triage your patients with blurred vision into the majority for whom routine written referral to an ophthalmologist is appropriate and the minority who require urgent referral (to be seen the same day). Delay in referral of urgent cases (see below), of even a few days, can cost the patient their sight.

Urgent referral for any patient with blurred vision and one or more of:

- acute or rapidly progressive visual loss
- severe visual loss
- red eye (see Chapter 2) or recent eye trauma (see Chapter 10)
- eye pain
- new-onset flashing lights or floating spots in the vision
- new-onset visual distortion (metamorphopsia)
- a visual field defect (described by the patient or discovered during confrontation field testing)
- RAPD on the swinging light test (see Chapter 1)
- swollen optic disc/s on examination by direct ophthalmoscopy
- symptoms of temporal arteritis (in patients over 50; see page 54)
- diabetes with new-onset visual symptoms (e.g. flashes, floaters)
- transient visual loss not typical of migraine
- any symptoms from which other acute eye or brain disease can be suspected (e.g. new-onset severe headaches).

All children and young adults who present with blurred vision require urgent referral.

Patients with none of the features described opposite may be referred routinely, but should be advised to contact you if there are any major changes in their symptoms while they are waiting to be seen by the ophthalmologist.

Causes of acute visual loss

Patients suspected of having any of the diseases outlined in this section should be referred urgently, as immediate ophthalmic medical or surgical treatment may be able to recover or stabilize sight in some cases.

Retinal detachment. The retina can peel off the back of the eye, usually after traction from the vitreous jelly tears a hole in the retina (Figure 3.1). If the detachment is diagnosed before it reaches the central visual area (the macula), urgent surgical repair can maintain good vision. Short-sighted patients have a greater risk of retinal detachment.

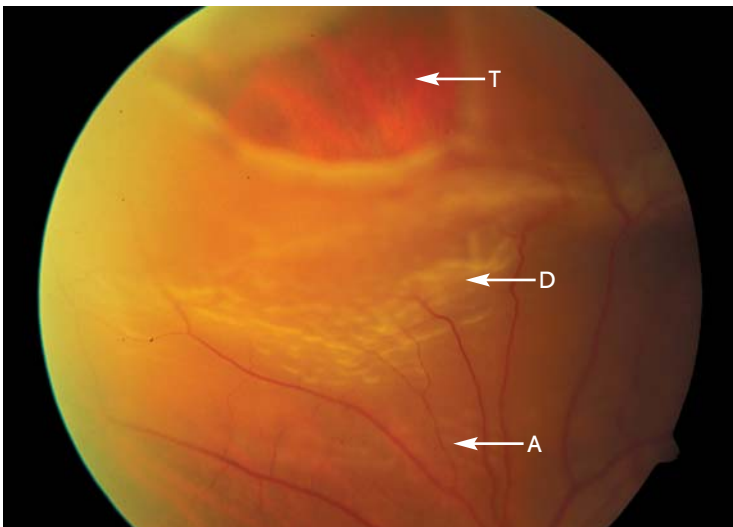


Figure 3.1 Retinal detachment. A, attached retina; D, detached retina; T, tear in retina.