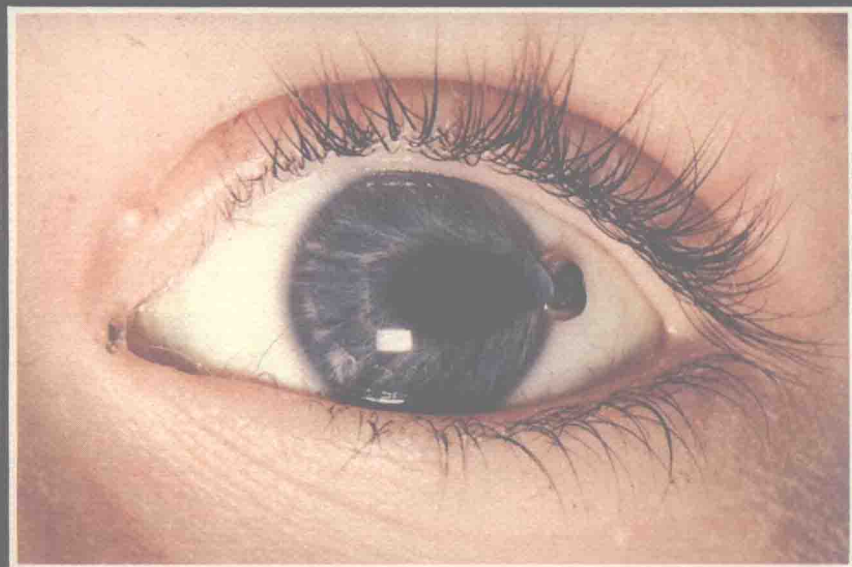


*Color Atlas of*  
**Ophthalmological  
Diagnosis**

**M. A. Bedford**

**Second Edition**

**YEAR BOOK** *Color Atlas Series*



# Color Atlas of Ophthalmological Diagnosis

Second edition

**M. A. Bedford**

FRCS

Honorary Consulting Surgeon,  
Moorfields Eye Hospital,  
lately Consultant-in-Charge,  
Eye Department,  
St Bartholomew's Hospital, London



YEAR BOOK MEDICAL PUBLISHERS, INC.

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# Introduction

This work is intended to be an atlas, not a textbook. No attempt is made to cover the whole field of ophthalmology. The book is aimed at the hard-pressed undergraduate or family doctor who has not the time (or the inclination) to delve deeply into a textbook containing optical theory and obscure pathological conditions surrounded by complicated ocular terms unlike any others encountered in the rest of medicine.

In the first chapter emphasis is placed on a practical examination, which is described step by step and which can be carried out with a minimum of simple instrumentation by someone not necessarily skilled in ophthalmology. In addition, there are short descriptions of diagnostic instruments an eye surgeon may use.

This is followed by chapters dealing with the evaluation of common clinical patterns that the non-ophthalmologist may be confronted with: for example, the red eye, loss of vision in an apparently normal-looking white eye, eye injuries, and so on. In each of these chapters an attempt is made to show how the diagnosis can be made using the method of examination described in Part 1.

It is hoped that this atlas will help the average medical man to sort out ocular problems, which might well otherwise defeat him.

## Acknowledgements

My publisher has demonstrated the need for this second edition. New photographs have been added and the text altered. Thanks are due to my colleagues who have aided me. Many of the photographs of 'old-fashioned' techniques, e.g. Schiøtz tonometry, peripheral fields, etc., have been retained because these are the only techniques available in some countries. Sadly, the politics and industrialisation of the 1980s have demonstrated the need to retain conditions such as mustard gas keratitis and penetrating eye injuries, which one would have hoped could have been deleted. Finally, thanks to my wife for her help, criticism and typing ability.

M. A. BEDFORD  
1986

# PART 1

## **Methods of examination:**

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## Estimation of visual acuity

**1** When confronted with a patient complaining of an ocular disorder of any sort, the first point to establish is: what can the patient actually see? This is estimated with the well known Snellen test chart, which should be used at a distance of 6 metres from the patient. This '6' is the top number of the fraction 6/6, which is normal visual acuity. On the figure opposite, this is the ability to read the third line from the bottom. The lowest two lines are necessary because very often the patient's visual acuity can be better than normal, i.e. 6/5 (able to read the second line from the bottom) or 6/4 (able to read the bottom line). The reasoning behind this chart is that, taking the top letter, the normal person can see this at 60 metres as it subtends ten times the angle of the letters on the 6/6 line. Similarly, a normal person can see the second line, O E, at 36 metres and the lines underneath at 24, 18, 12 and 9 metres. If testing at 6 metres and the patient can see only the second line from the top (O E) the vision is thus 6/36.

There are several points to bear in mind when testing the visual acuity: do not waste time doing binocular visual acuity, but test one eye at a time and always test the eye the patient is not complaining about first, as this can be a very useful control.

The approximate equivalents to Snellen's notation in feet and in the decimal system are:

<i>Snellen's notation</i>		<i>Decimal notation</i>
<i>Metres</i>	<i>Feet</i>	
6/6	20/20	1·0
6/9	20/30	0·7
6/12	20/40	0·5
6/18	20/60	0·3
6/24	20/80	0·25
6/60	20/200	0·1



**2** Always use an opaque card to occlude the other eye. If you use your own hand or the patient's hand there may be small gaps between the fingers, through which the patient may sometimes look, thus giving a false reading. The card can be easily moved across to the other eye; there is thus no doubt as to the separate visual acuity of each eye. Naturally, the tests should be done with the patient wearing his distance glasses or bifocals. This is a point well worth remembering, for to save time the patient, knowing that he is to see the doctor about his eyes, will tend to remove his glasses before coming in for the examination.

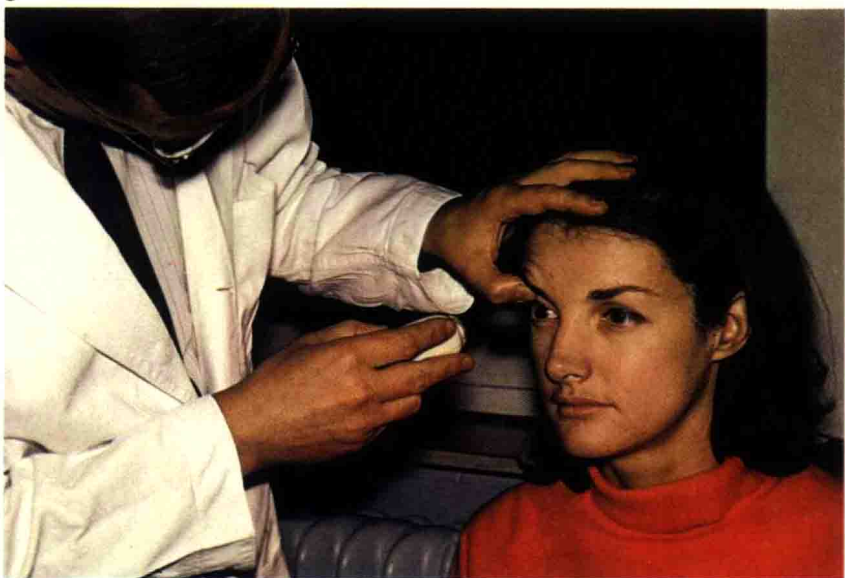
## **Examination of the outside of the eye**

**3** Next consider the examination proper, taking it in a logical order. First, examine the outside of the eye. This is best done by using an ordinary hand light and holding up the upper lid as shown. Points to be noticed are: is the eye white or red? Are the pupils reacting normally? Is there a nice bright corneal reflex? This last is a sight that pleases all eye surgeons, for it proves that the essential transparent window of the eye (the cornea) is probably normal, if the highlight shown by the reflection of the examiner's hand light is bright and clearly defined.

2



3





**4 & 4a** The patient should be instructed to look to the right, to the left, up and down. Both eyes should be examined in this way. It is impossible to see the deep aspect of the upper lid without a further manoeuvre termed 'eversion' (5).