Examining the eye

All health workers should be able to carry out a good eye examination of the front of the eye. In this issue, we explain how this can be done with limited resources.

Most patients with vision or eye problems will first be seen by a health worker who is not an ophthalmologist. In high-resource countries, this may be a general physician or an optometrist, and in low-resource settings it is more likely to be a community or primary health care worker. These health workers, who have to be able to assess any medical condition, often have limited knowledge and experience with regards to eye diseases, as well as limited equipment with which to examine the eye. This may result in health workers feeling disempowered and unable to help anyone with an eye condition. In practice, a number of common eye diseases can be diagnosed by examination of the eye with a torch and assessment of vision using a visual acuity chart, both of which are inexpensive and easy to use.

The aim of this issue is to support non-specialists to confidently carry out an eye examination.

The first step is to take a history. The presentation of common eye diseases can be usefully divided into four main groups of symptoms:

1. Red, sore, painful eye or eyes (including injury to the eye).
2. Decreased distance vision in one or both eyes, whether sudden or gradual.
3. A reduced ability to read small print or see near objects after the age of 40 years.
4. Any other specific eye symptom, such as double vision, swelling of an eyelid, watering or squint.

Continues overleaf
About this issue

A number of common eye diseases can be detected by examining the eye with a torch and assessing vision using a visual acuity chart, both of which are relatively inexpensive and easy to find. Carrying out a good eye examination is a skill that is worth practising and doing well, and in this issue we will show you how.

Contents

41 Examining the eye
Allen Foster and Priya Morjaria

44 How to take a complete eye history
Mooreen Takasewanya

46 How to measure distance visual acuity
Janet Marsden, Sue Stevens and Ebri

47 How to prescribe spectacles for near vision
Sue Stevens

48 How to examine the front of the eye
Dr Nasiru Muhammad

50 The Arclight and how to use it
Dr Obaid Kousha and Dr Andrew Blaikie

52 Tips for assessing vision in a baby or child
Richard Bowman

54 Testing the red reflex
Richard Bowman and Allen Foster

55 How to check eye alignment and movement
Eugene Helveston and Anand Moodley

56 Measuring intraocular pressure
Elmien Wolvaardt and Sue Stevens

58 Examining visual fields
David C Broadway and Fatima Kyari

60 TRACHOMA: Beyond VISION 2020: universal eye health coverage and the elimination of trachoma
Peter Holland and Serge Resnikoff

61 CEHJ App launched!
Elmien Wolvaardt

62 Questions and answers on eye examination

63 Picture quiz

64 KEY MESSAGES: Eye examination

Editor
Elmien Wolvaardt
editor@cehjournal.org

Consulting editor for Issue 107
Allen Foster

Editorial administrator
Anita Shah admin@cehjournal.org

Editorial committee
Nick Astbury
Matthew Burton
Sally Crook
Allen Foster
Clare Gilbert
Suzanne Gilbert
Michelle Hennelly
Hannah Kuper
Fatima Kyari
Priya Morjaria
GV Murthy
Daksha Patel
Babar Qureshi
Serge Resnikoff
Richard Wormald
David Yorston

Regional consultants
Hannah Faal (AFR)
Kovin Naidoo (AFR)
Wanjiku Mathenge (AFR)
Van Lansig (AMR)
Andrea Zin (AMR)
Ian Murdoch (EUR)
Janos Nemeth (EUR)
GVs Murthy (SEAR)
R Thulsiraj (SEAR)
Babar Qureshi (EMR)
Mansur Raja (EMR)
Leshan Tan (WPR)
Hugh Taylor (WPR)

Design
Lance Beilers

Printing
Newman Thomson

Mobile phone app now available
Visit the App Store or Google Play and search for “CEHJ” or “Community Eye Health Journal”. The app is free to download and provides free online and offline access to our content. The app is also available from any browser at m.cehjournal.org

Visit us online
www.cehjournal.org

Subscribe
Visit: www.cehjournal.org/subscribe
Email: web@cehjournal.org

Readers in low- and middle-income countries receive the journal free of charge. Readers in high-income countries pay £100 per year for 4 issues. Send your name, occupation, and postal address to:
Anita Shah, International Centre for Eye Health, London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT, UK.
Email: admin@cehjournal.org

Deciding which of these main groups of symptoms a patient is complaining of enables us to start thinking about possible different diagnoses.

The second step is to measure the vision in each eye. This is described on page 46 for distance vision and on page 47 for those with difficulties to see for reading. Note: The severity of vision loss is an indicator of how serious the eye condition is.

The third step is to examine the front of the eye using a torch (p. 48). Ask:
- Are the eyes straight? Are the eyelids normal, and do they open and close? Are the eyelashes in place? Any swelling or redness?
- Is the white of the eye white? Any redness, discharge or swelling?
- Is the window of the eye (cornea), clear? Are there any grey or white areas?
- Is the pupil black and round, and does it become smaller in bright light? Is the red reflex present?

If the answer to these questions is ‘No’, then this can lead to a suspected diagnosis which may be treatable (such as conjunctivitis), or require referral (such as cataract).

There are other examinations that can also be performed with non-expensive equipment, including:
- Examining the optic nerve and retina using the Arclight (p. 49)
- Testing the red reflex (p. 53)
- Measuring intraocular pressure (p. 54)
- Examining visual fields (p. 56)
- Assessing eye alignment and movement (p. 58).

Not every health worker will have the knowledge, experience and equipment to perform all these further examinations; however we hope that this issue of the Community Eye Health Journal will provide all health workers with the knowledge of how to take an eye history, measure visual acuity and perform a good examination of the external eye with a torch.

We hope that this issue will provide you with the knowledge you need to feel confident in your work.