A physician once remarked to me that there were four golden rules to examining all patients: ‘Rule one, history; rule two, history; rule three, history; and rule four: the examination – to confirm what you probably already know from the history... in that order of importance’.

History taking is the most basic of clinical skills. Like good record keeping, good history taking is not just important for good patient care, it is fundamental to it. The optometric patient’s medical history plays a significant role in their clinical management, and though this aspect has always been regarded as important, contemporary optometric knowledge and practice now requires a much more thorough understanding of it, and its interactions with the eyes.

Today, optometrists in primary eye care manage a variety of ocular conditions1 with either an entry level or extended formulary of pharmaceuticals (general sales list, pharmacy only, and prescription-only medicines) and are often in communication with the patient’s general medical practitioner. Furthermore, we know that ocular wellbeing or otherwise and general wellbeing or otherwise are inexorably linked. One cannot advise patients about their eyes in isolation of their general health status, because many systemic medical conditions and interventions have ocular manifestations and/or side effects and vice versa.2 A cursory or incomplete medical history is thus indefensible in modern day optometric practice. This article gives an overview of what a medical history should consist of, and introduces the concept of a ‘review of systems’.

Any history should include a note of the chief complaint or the principal reason for attendance (including frequency, location, onset, association, duration, severity and alleviating and exacerbating factors where appropriate of any symptoms/chief complaint), past ocular history, history of any current illness(es), past medical history including any chronic medical problems, visits and admissions to hospital, surgical interventions, trauma, childhood illness(es), current ocular and any other medications either prescribed by a healthcare practitioner or self-mediated (over-the-counter or herbal medicines), family ocular and medical history, and social/occupational history.

Having completed this, it is important to review quickly any wider health issues – a review of systems. This is a screening strategy to uncover potentially significant symptoms and/or diagnoses and/or an intervention not otherwise elicited or volunteered by the patient because patients do not make the association of ocular problems with general health, and this involves a series of questions. It should be the last part of the history taking and normally before any formal examination (though some practitioners prefer to do this by administering a checklist, to complete before the clinical consultation in primary care settings in the USA3). It is a good idea to begin this section of the history taking by telling the patient that you would like to ‘ask some general questions about their health to make sure I haven’t missed anything’. It is then appropriate to ask a general question about each body system followed by more specific yes/no questions as needed. Usually where patients say that they have no problems, it is most probably fine to move on, having asked about familial risk where appropriate, but if in doubt, it’s best to ask supplementary questions to set aside any doubts. The following are examples of some questions that may be useful in reviewing body systems:

- **General/constitutional**
  - Average weight? Weight loss or gain?
  - General state of health? Sense of well-being? Ability to conduct usual activities?
- **Ears, nose, throat – ENT**
  - Hearing loss? Discharge or drainage? Vertigo? Tinnitus?
  - Sense of smell? Frequent colds? Epistaxis?
  - Postnasal drainage? Allergies?
  - Change in voice? Sore throat? Bleeding or swelling of the gums?
  - Tooth abscesses or extractions? Ulcers in mouth? Disturbance of taste?
- **Respiratory system**
  - Respiratory allergies? Dyspnoea? Pain with breathing?
  - Any cough? Haemoptysis? Wheezing?
- **Cardiovascular**
  - Hypertension? Stroke? Heart disease?
- **Neurological**
  - Multiple sclerosis? Epilepsy? Cerebral palsy?
- **Gastrointestinal**
  - Dyspepsia? Diarrhoea? Constipation?
  - Nausea or vomiting? Allergies/food intolerances? Abdominal pain?
- **Genitourinary**
  - History of kidney or bladder disease?
  - Urinary frequency? Burning?
  - Nocturia? Changes in urine colour?
  - Clarity or odour of urine? Pain? Excessive thirst? Swelling of legs, hands, eyelids? Chills or fever?
- **Musculoskeletal**
  - History of injuries or diseases? Back pain? Limb or joint pain? Myalgias?
- **Endocrine**
  - Non-insulin dependent diabetes?
  - Insulin dependent diabetes? Thyroid dysfunction? Hormonal dysfunction?
Test your eyes by phone

Bill Harvey is impressed by the latest smartphone adaptation. Admire the technology and don’t worry about potential competition.

There are new applications and functions available for smartphones by the day. When I heard that there was now a way to use a smartphone to measure refractive error I assumed this was some form of hoax or perhaps a novelty marketing tool. It is anything but.

A team at MIT Media Lab, a research group with a long track record of developing photographic and optical innovations, have produced an attachment which fits over most large screen smartphones and allows the viewer to undertake a simple two-minute test which then arrives at an estimation of their refractive error. The main interest for this development is likely to be developing countries where access to more expensive refractive assessment, either optometry-led or through autorefractor or aberrometer, may be restricted. As each device costs around $2 and many mobile phones are available throughout the world, the device offers an inexpensive way to measure refractive errors.

The device, when activated, projects two parallel lines onto the screen which are viewed from a close distance. The viewer uses the key pad to reduce the distance between the two lines until they overlap. This is done for lines at nine different orientations, at the end of which the software is able to calculate the spherical and cylindrical component of the refractive error. Early trials using the Apple iPhone 4G have found a margin of error of less than 0.50 dioptres for both sphere and cylinder, a respectable degree of accuracy.

‘Our device has the potential to make routine refractive eye exams simpler and cheaper, and, therefore, more accessible to millions of people in developing countries,’ says MIT’s visiting professor Manuel Oliveira. Research associate Ankit Mohan, who worked on the paper, says: ‘People have tried all kinds of things, some very clever as possible replacements for the heavy and expensive conventional eye-testing systems. The key thing that differentiates ours is that it doesn’t require any moving parts.’

It will be interesting to see how the device is taken up globally.

References

2 Muchnick BG. (Ed) Clinical Medicine in Optometric Practice, Mosby Year Book Inv, St Louis, 1994.
7 A Visual Recognition and Interpretation of Clinical Signs (VRICS) exercise on the *Optician* website (worth two CET points) is planned on Record Keeping based on this and two papers published previously. Readers are encouraged to read all three articles before attempting the VRICS exercise on ‘Record Keeping’ (www. optician.co.uk).
8 Professor Nizar Hirji is a consultant optometrist, Hirji Associates – Consulting in Optometry, Birmingham, www.hirji.co.uk