

## An Ophthalmoscope for under USD\$10?

In many medical facilities around the world, the lack of an ophthalmoscope remains a significant barrier to even basic eye examination. One reason for this is the relative expense of instruments, which along with their portable nature makes them likely to be 'borrowed' or stolen. A traditional unit typically costs in the region of \$300+. However, a group from the United Kingdom have developed an all-in-one ophthalmoscope/loupe/otoscope, which will cost below \$10 [Figure 1].

Its main use would be in clinics, out-patient departments, and on general medical wards. However, being low-cost, low-weight, and highly portable it could be used more widely—and in time could become part of the general equipment carried by health personnel.

It operates, in the same way, as other direct ophthalmoscopes but keeps cost and weight down through simplified design, plastic casing, and light-emitting diodes. They have also opted for charging through solar power or a USB cable removing the need to buy new batteries. Its miniature size and shape makes it as easy to carry as a name badge.

It should be noted that development is ongoing in a number of areas. However, initial impressions are of a highly portable, extremely lightweight device which does not have the limitations of usual battery-powered equipment. Varying the focus requires some dexterity and the optics are marginally inferior compared with a traditional model, but appear of sufficient quality for most diagnostic purposes. Of course, other questions remain as to how durable it will be, but given the huge difference in cost, size, and weight, it is worth keeping an eye open on progress.

It is essential to highlight that although this product may improve access to ophthalmoscopes and otoscopes, people still need sufficient training on how to use these tools effectively. Alongside providing equipment, must come know how and have systems in place for the potentially increased number of referrals.

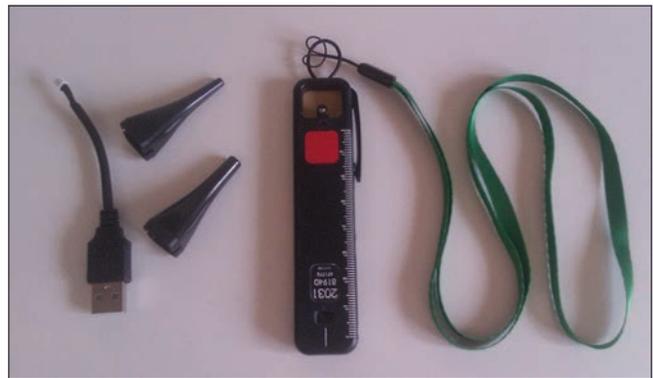


Figure 1: A photo of the device

The scope should be available on the market before the end of 2014, and only when used extensively in a variety of clinical contexts will the true extent of its applications and limitations become apparent. That said, the instrument clearly addresses an important need, so though it may need some improvements along the way, it represents a promising step towards improving access to ophthalmoscope/otoscope examination.

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