THE FUNDUS CAMERA LANDSCAPE
AND KEY QUESTIONS

September 14, 2013

David S. Friedman, MD, MPH, PhD
Alfred Sommer Professor of Ophthalmology
Director, Dana Center for Preventive Ophthalmology
Wilmer Eye Institute
Senior Ophthalmologist, Helen Keller International
WHAT DO WE NEED FROM A CAMERA?

- Ability to accurately identify macular edema and moderate/advanced retinopathy
- Maybe some day the ability to image the optic nerve in a way to detect glaucoma
- Could also include autorefraction
OTHER DESIRABLE FEATURES

• Portable

• Cheap

• Good connectivity

• DICOM compatible

• Smaller image size (bandwidth concerns)
- Portable, folds into a small case
- Connects to laptop
- Under 10K cost
- No comparative studies
- LED?
SMARTSCOPE M5

- Portable
- Connects to laptop USB
- Under 10K cost
- No comparative studies
- LED

Optomed, Finland
HORUS SCOPE (JEDMED, IOWA)

- FDA Approved (but no studies)
- Portable
- Cost not available
- 3 hour battery life
- Connects to laptop via USB
- LED

Built-in IR technology allows image capturing without dilation.

Conveniently located controls make this system extremely user friendly. Most functions can be controlled with just your thumb.

The included cradle acts as both a charger and an image transfer docking station (via USB).
DIGISCOPE (SPECTRAL REFLECTANCE)

- Telemedicine screening programs in the US
- Kappa > 0.95 with retinal camera
- Cost not clear
- Can be moved, but not highly portable

EyeTel, U.S.
EASYSCAN (CONFOCAL SLO)

- Powered by laptop USB
- Cost?
- DRIVE study, able to get images, 100 patients, ARVO only
- LED

iOptics, Netherlands
PANOPTIC

- Widely used by internists
- $800
- Not designed for large scale screening
- No studies

Welch Allen, U.S.
DRS AUTOFOCUS

- Portable, self-contained
- Fully automated
- Pricing not known
- No studies
- Internet native

Centervue, Italy
• Portable?
• SDOCT, but not clear if also photo
• FDA clearance
• Pricing not known
• No studies

Optovue, U.S.
• Lots of cameras and I am sure I missed some in my review

• Little data on performance

• Opaque pricing also complicates decision making
THANK YOU.

“Although the world is full of suffering, it is also full of overcoming it.”

-Helen Keller