

Enabling self-determination with vision and compassion

Fast, accurate autorefractometry in aid missions

Randall Thomas, OD & Robert Hillebrand

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Dr Randall Thomas refracting patients in Uganda with QuickSee. Photo courtesy Mission Servants Ministry



QuickSee handheld autorefractor

“There was no technology available” for refraction in the Ugandan village where Dr Randall Thomas, volunteering with Mission Servants Ministry in August 2019, provided aid to over 800 adults and children. “We took QuickSee because I am convinced it’s spot on...we relied on its accuracy to render prescriptions*.”

Dr Thomas, Bob Hillebrand (Mission Servants Ministry co-founder and CEO), and other volunteers from North Carolina travelled to collaborate with local organizations Child Redeemed Mission Home and Bwase Redeemed Church, 125 miles northeast of Entebbe, to provide a combination of aid services, including physical, practical, and spiritual support. Two days of air and ground travel, over 125 pounds of supplies per person—it was Mission Servants Ministry’s 28th such trip. “Our goal is to empower the churches to reach out into their communities, and support projects they initiate,” said Mr Hillebrand.

Dr Thomas brought the QuickSee handheld autorefractor because of its accuracy, speed, portability, and durability, all of which were critical for meeting his objective of treating as many patients as possible effectively outside a well-equipped clinical setting. Using wavefront aberrometry to make dynamic binocular measurements, Dr Thomas refracted patients to make prescriptions for glasses, and also examined them for eye health.

“The beauty of QuickSee was that it allow us to get a baseline vision assessment to more accurately know what reading glasses people might need,” said Dr Thomas. “We could efficiently quantify their visual status,” especially among the adults. “So if a patient was a +1D they might need a +3.5D instead of a +2.5D...[QuickSee] let us be more exacting in delivering read-

“We relied on QuickSee’s accuracy to render prescriptions*.”

—Randall Thomas, OD

ing glasses." Eyeglasses were provided by National Vision, Restoring Vision, and others so patients could leave with correction immediately. On prior trips, without QuickSee and Dr Thomas's expert help, Mission Servants Ministry would do their best to match people with the donated readers they brought.

"These trips have created opportunities to help in ways we really didn't expect," said Mr Hillebrand, noting how often screenings and evaluations point to other things people need. "I think our future trips could be much bigger projects because people are beginning to understand how we can help. We probably could have handled more if people knew what we were able to do."

Mission Servants Ministry's contributions to the towns they visit haven't been limited to health services. With a background in mechanical engineering and having run a successful manufacturing company, Mr Hillebrand has led the group to take on other critical projects, from helping to rebuild homes to drilling wells for drinking water. And, being a faith-based initiative, they focus on human impact: joining the community in prayer, providing skills training to women, playing with children, and giving personal attention.

With that scope of service, Mr Hillebrand's measurement of impact goes beyond the numbers of people treated with vision or medical care. "The underlying reasoning behind what we do is spiritual and mission-minded," he says. "The churches there are doing more outreach of their own, and they feel not only the blessing of our help but also the blessing of helping others." ●

For other case studies of QuickSee in global and community health initiatives, visit plenoptika.com/mobile-care

**The intended use of QuickSee is to objectively measure a patient's refractive errors, to provide a starting point for subjective refraction performed by a vision care professional.*



QUICKSEE KEY FEATURES

Binocular and open view

Reduces patient accommodation for more reliable measurements

Wavefront aberrometry

Provides the most comprehensive method to measure ocular aberrations and refractive errors

Dynamic measurements

Produces results with high confidence

BENEFITS

Accurate binocular measurements in 10 seconds

Strong agreement with subjective refraction

Easy to learn and use

User and patient friendly; accommodates patients with physical disabilities

Field durable

Calibration free, works indoors and outdoors, rechargeable battery

SELECTED PUBLICATIONS

Rubio, Marcos, et al. "Validation of an Affordable Handheld Wavefront Autorefractor" *Optom. Vis. Sci.*, vol. 96, no. 10, pp. 726–732, Oct. 2019.

Durr NJ, Dave SR, Lim D, et al. Quality of eyeglass prescriptions from a low-cost wavefront autorefractor evaluated in rural India: results of a 708-participant field study. *BMJ Open Ophthalmology* 2019;4:e000225. doi:10.1136/bmjophth-2018-000225

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