

Supplemental Online Content

Popov T, Fierz FC, Bockisch CJ, Weber KP. Using smartphone exophthalmometry to measure eyeball protrusion. *JAMA Ophthalmology*. Published online August 7, 2023.
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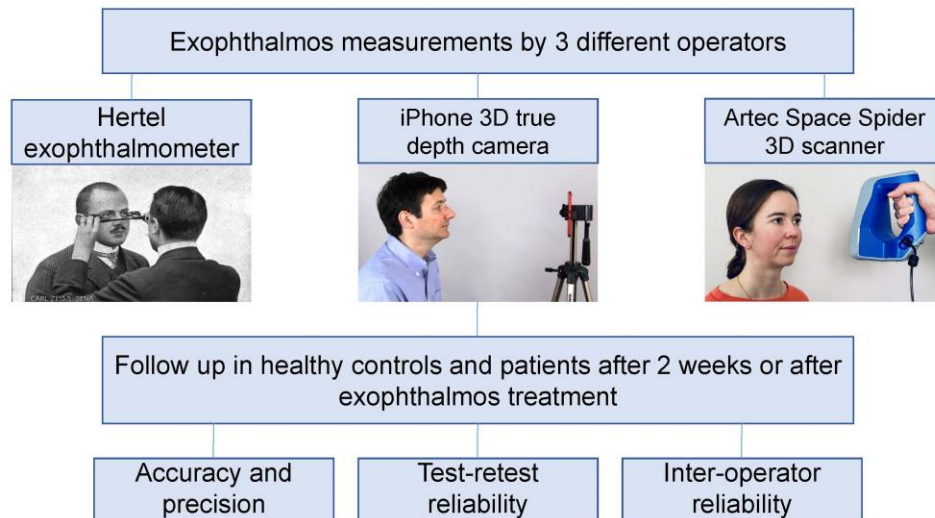
eFigure 1. Study flowchart

eFigure 2. Difference between exophthalmos in patients and healthy participants measured with the smartphone, Hertel exophthalmometer, and high-resolution scanner

eFigure 3. Accuracy and precision of eyeball protrusion measurements with the smartphone compared to the Hertel exophthalmometer and the high-resolution scanner

This supplemental material has been provided by the authors to give readers additional information about their work.

eFigure 1



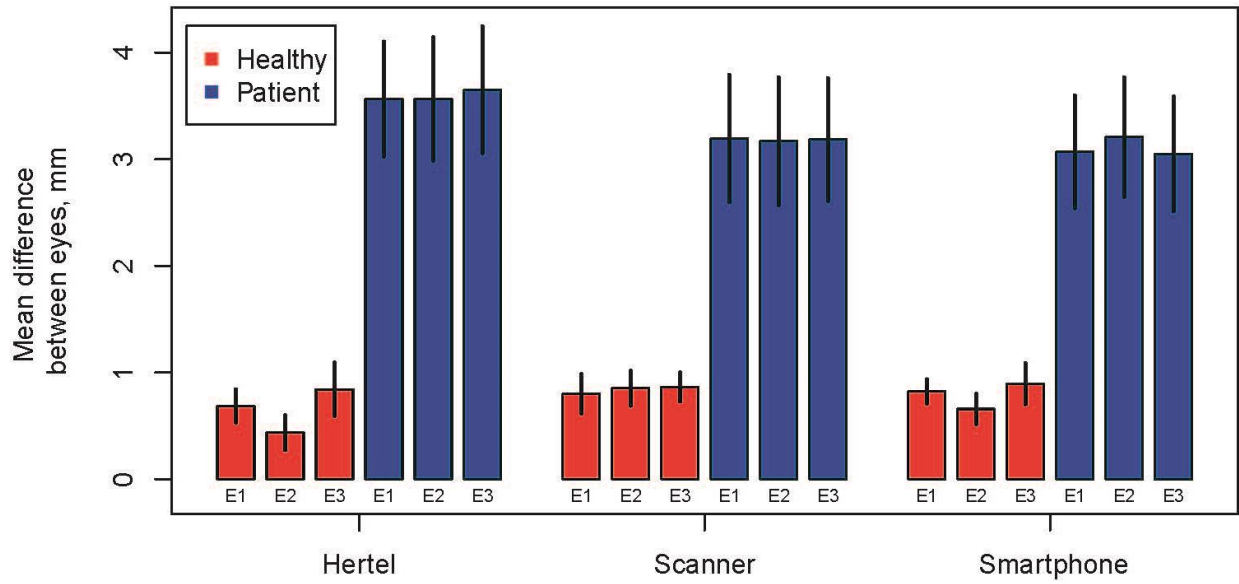
Study flowchart.

The left-hand image was reprinted with permission from Hertel E, Simonsz HJ. A simple exophthalmometer.

Strabismus. 2009;16:2,89-91. doi:10.1080/09273970802049853.

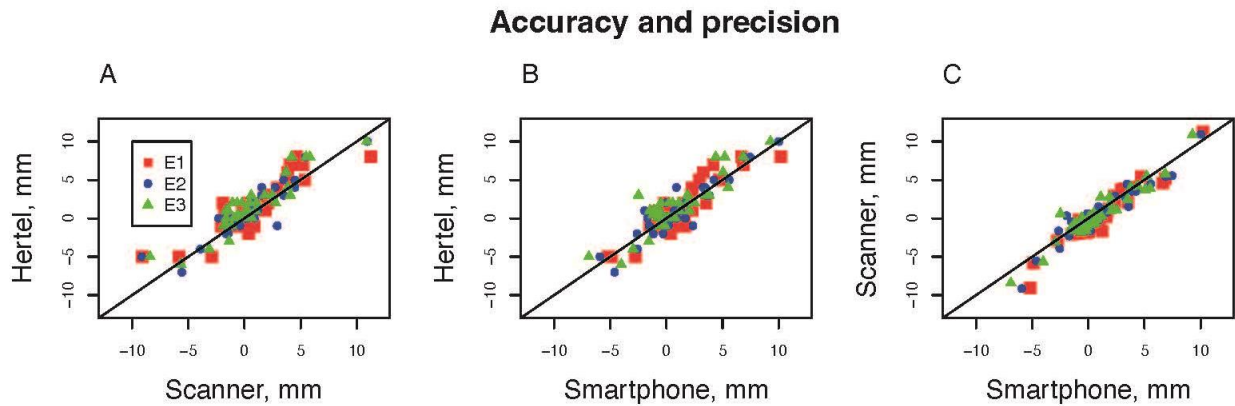
We thank the patients in the middle image and the right-hand image for granting permission to publish this information.

eFigure 2



Difference between exophthalmos in patients and healthy participants measured with the smartphone, Hertel exophthalmometer, and high-resolution scanner. The average difference in eyeball protrusion for the three methods and examiners (E1, E2, E3) for both patients (blue) and healthy participants (red) are shown with the standard error of the mean for the first measurement in each participant.

eFigure 3



Accuracy and precision of eyeball protrusion measurements with the smartphone compared to the Hertel exophthalmometer and the high-resolution scanner. A) Correlation graph for comparison of the difference in eyeball protrusion between the Hertel exophthalmometer and the professional high-resolution scanner. B) Comparison of the difference in eyeball protrusion between the Hertel and the smartphone. C) Comparison of the difference in eyeball protrusion between the Scanner and the smartphone. Data of patients and healthy participants are pooled together, colors (red, blue, green) and signs (square, circle, triangle) depict the three examiners (E1, E2, and E3) respectively).