

Selected Clinical Studies utilizing Plusoptix Vision Screeners

| Year | Title | Reference | Outcome |
|------|--|--|--|
| 2019 | Diagnostic test accuracy of Spot and Plusoptix photoscreeners in detecting amblyogenic risk factors in children: a systemic review and meta-analysis | OPO – Ophthalmic & Physiological Optics (Journal of the college of optometrists) | <p>“Comparing the two photoscreeners for overall performance, the Plusoptix is showing slightly higher scores than the Spot in sensitivity, specificity, diagnostic odds ratio and AUC. However, there are no statistical differences between them in any aspect.” [Quote from the full text]</p> <p>Overall sensitivity: Plusoptix 90.2% Spot 91.7%</p> <p>Overall specificity: Plusoptix 93.0 % Spot 82.6%</p> |
| 2018 | Kindergarten Vision Testing Programme | 2015-2018 Report - Kindergarten Vision Testing Programme | <p>“The two autorefractors agreed 89% of the time. When they disagreed, the PlusoptiX combined with the three other tests caught all but one child with eye problems, but the Spot with the three other tests missed six.”</p> <p>“After using both for two years we stopped using the Spot.”</p> |
| 2018 | Traditional and Instrument-Based Vision Screening in Third-Grade Students | Open AAPOS Poster (Evan Silverstein, MD; Elaine R. McElhinny, MD) | <p>"Instrument-based vision screening is more time efficient than traditional screening and has a similar PPV in third-grade students."</p> <p><u>Time to screen (average):</u> Plusoptix 30 seconds Traditional 120 seconds</p> |
| 2018 | Results with photoscreener shown comparable to comprehensive exam | Primary Care Optometry News, October 2018 | <p>"Results with photoscreener shown comparable to comprehensive exam. One ophthalmologist advocates standardized vision screening programs [...] "</p> <p>Sensitivity of 93.02% Specificity of 84.96% False positive rate of 9.13% False negative rate of 2.74% Positive predictive value of 80.00% Negative predictive value of 94.96%</p> |

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|---------------------|---|--|---|-------------|------------|--------------------|--|---------------|-------------|--------------------|--|---------------|----------|---------------------|--|------------|---------------|
| 2014 | Calibration and Validation of the 2WIN Photoscreener compared to the plusoptiX S12 and the SPOT | JPOS; e-publication | "The Plusoptix outperformed the SPOT and 2WIN as an autorefractor, particularly with respect to astigmatism power and axis." <u>2WIN A:</u> Sensitivity 71% Specificity 67% <u>2WIN B:</u> Sensitivity 73% Specificity 76% <u>SPOT:</u> Sensitivity 78% Specificity 59% <u>Plusoptix S09:</u> Sensitivity 85% Specificity 73% <u>Plusoptix S12:</u> Sensitivity 91% Specificity 71% | | | | | | | | | | | | | | |
| 2013 | Flip chart visual acuity screening compared to the plusoptiX S09 photoscreener performed by a lay screener | ARVO 2013 Poster # 2517 | Flip chart: Sensitivity 83% Specificity 47% Plusoptix: Sensitivity 92% Specificity 88% | | | | | | | | | | | | | | |
| 2013 | Pediatric photoscreeners in high risk patients 2012: A comparison study of Plusoptix, iScreen and Spot | Binocul Vis Strabolog Q Simms Romano 2013;28(1):20-8 | <table border="0"> <tr> <td><u>High</u></td> <td><u>Low</u></td> </tr> <tr> <td><u>Sensitivity</u></td> <td></td> </tr> <tr> <td>Plusoptix 84%</td> <td>iScreen 72%</td> </tr> <tr> <td><u>Specificity</u></td> <td></td> </tr> <tr> <td>Plusoptix 94%</td> <td>Spot 68%</td> </tr> <tr> <td><u>Inconclusive</u></td> <td></td> </tr> <tr> <td>iScreen 4%</td> <td>Plusoptix 12%</td> </tr> </table> | <u>High</u> | <u>Low</u> | <u>Sensitivity</u> | | Plusoptix 84% | iScreen 72% | <u>Specificity</u> | | Plusoptix 94% | Spot 68% | <u>Inconclusive</u> | | iScreen 4% | Plusoptix 12% |
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| iScreen 4% | Plusoptix 12% | | | | | | | | | | | | | | | | |
| 2012 | Performance of the detection of amblyopia risk factors in children 0 to 5 in central Iowa | AAPOS 2012 Poster # 56 | Plusoptix: Sensitivity 86,8% Specificity 88,0% | | | | | | | | | | | | | | |
| 2011 | Validity of plusoptiX S04 photoscreener as a vision screening tool in children with intellectual disability | J AAPOS 2011;15:476-479 | Plusoptix: Sensitivity 95% Specificity 50% | | | | | | | | | | | | | | |
| 2011 | Flip chart visual acuity screening compared to the plusoptiX A09 photoscreener performed by a screener | ESA 2011 Poster # 2001 | Flip chart: Sensitivity 83% Specificity 44% Plusoptix: Sensitivity 94% Specificity 89% | | | | | | | | | | | | | | |