An eye-tracking-based dichoptic amblyopia home treatment is non-inferior to standard occlusion for amblyopia: 28 weeks follow-up



Relevant financial disclosures

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CureSight AMBLYOPIA TREATMENT

The effectiveness of dichoptic therapy for amblyopia (CureSight) has been compared to patching in a prospective RCT and found to be non-inferior after 16 weeks of treatment.

Estimates of recurrence with monocular treatment (patching or blurring the fellow eye) vary widely in the literature, from as low as 6% to as high as 75%. The PEDIG large scale study found that approximately one fourth of successfully treated amblyopic children experience a recurrence within the first year after cessation of monocular treatment, with most of the reoccurrences occurring during the first 13 weeks.



PURPOSE

To examine amblyopia recurrence 12 weeks after cessation of the CureSight binocular treatment for amblyopia (28 weeks follow-up)

- Conducted at 6 academic and community practice sites in Israel
- In 59 patients who did not perceive any additional amblyopia treatment for 12 weeks after cessation of 16-week treatment with:
  - 1.5 daily hours of CureSight (39 patients) or
  - 2 daily hours of patching (20 patients, control treatment)
- Comparing VA and stereoacuity

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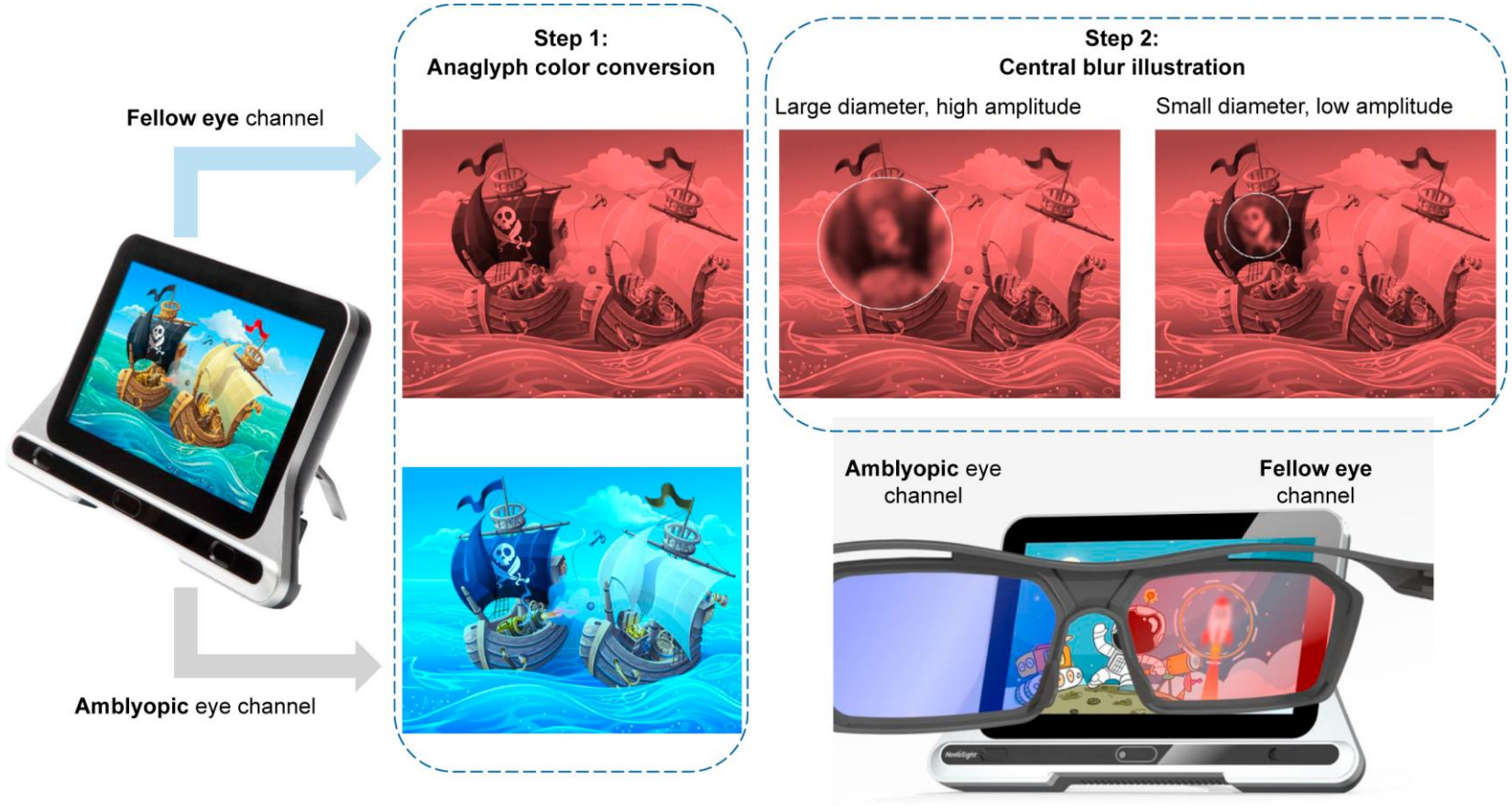
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CureSight TREATMENT SETUP



Step 1: Streamed visual stimuli are converted into 2 anaglyph separate channels, blue for the amblyopic eye and red for the fellow eye and are presented superimposed.

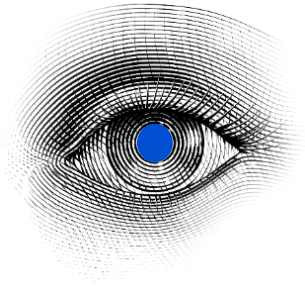
Step 2: Illustration of the blurred fellow eye channel (red) central visual area, a high-diameter blur area with a high amplitude blur (left) and a small-diameter blur area with a low blur amplitude (right). The amblyopic eye channel is not affected by the blur.

CureSight AMBLYOPIA SETUP



RESULTS

Improvement in amblyopic Distance BCVA at 28-week follow-up (16-week treatment + 12-week no treatment)



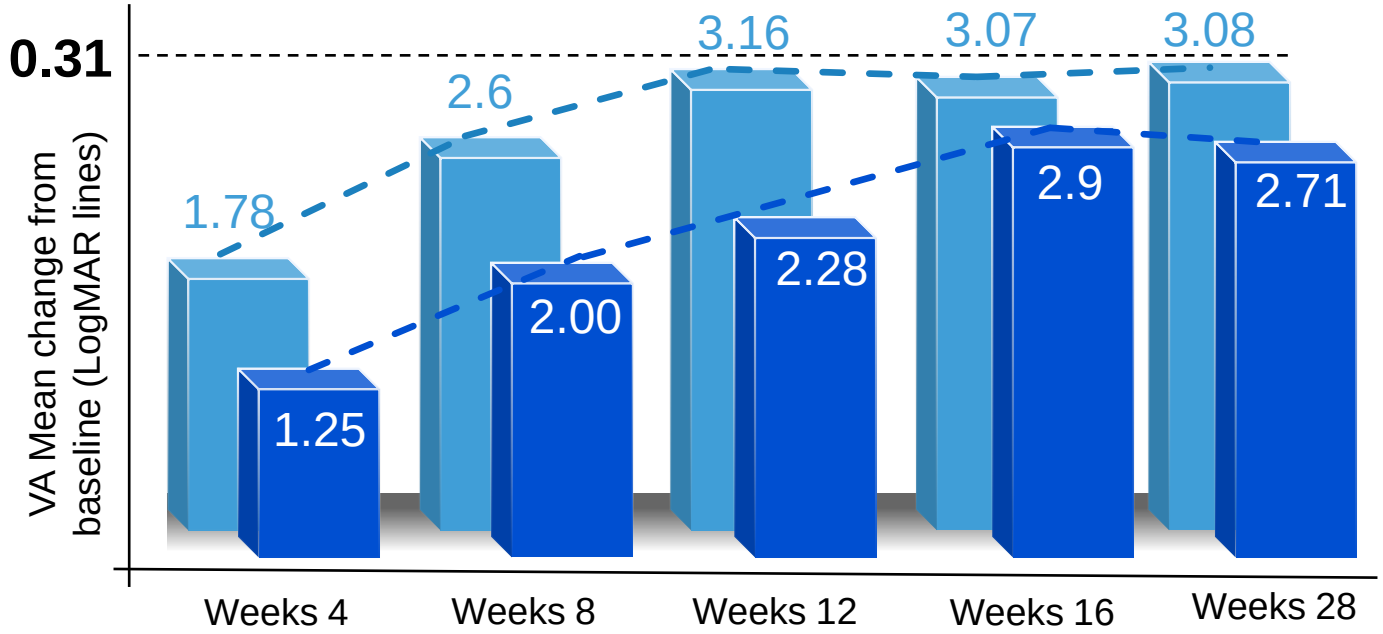
CureSight:

- At 28 weeks the VA improvement was maintained compared to baseline (2.71 ± 1.4 lines, p<0.001).
- There was no significant difference compared to the end of treatment results.



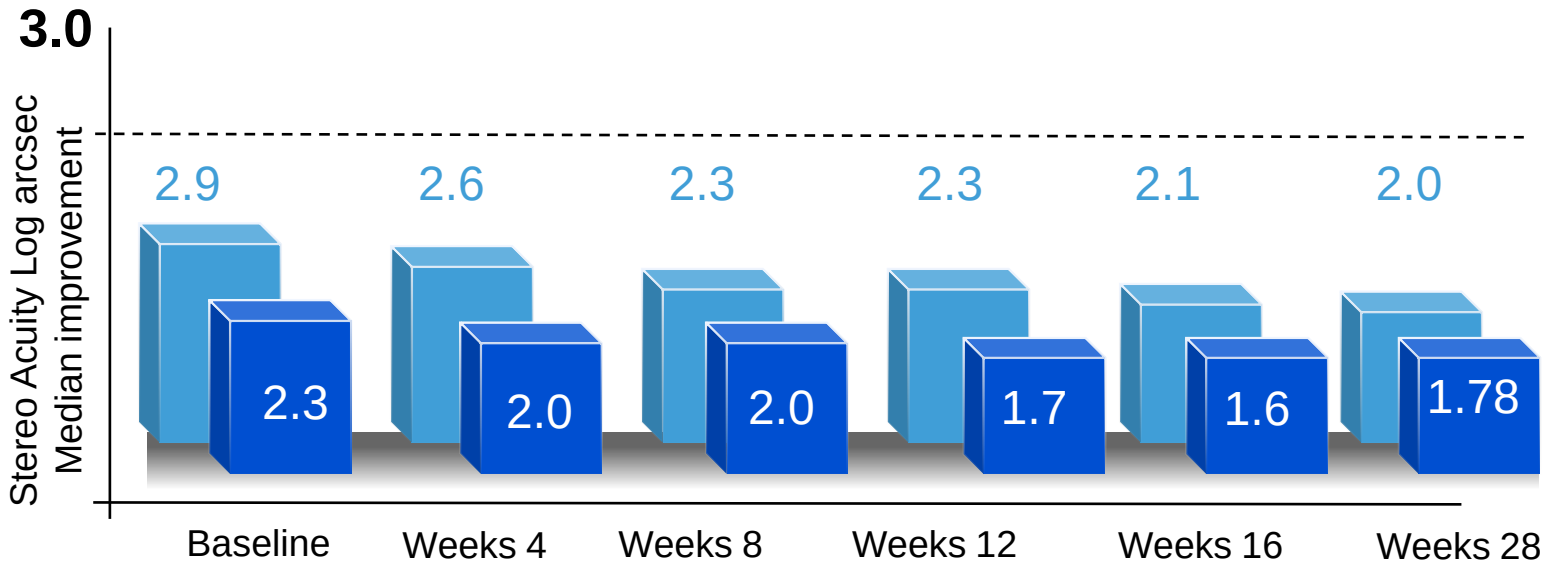
Patching:

- At 28 weeks the VA improvement was maintained compared to baseline (3.08 ±0.82 lines, p<0.001).
- There was no significant difference compared to the end of treatment results.



RESULTS

Improvement in amblyopic median stereoacuity at 28-week follow-up (16-week treatment + 12-week no treatment)





CureSight:

- At 28 weeks the stereoacuity improvement was maintained compared to baseline (1.78 vs. 2.3 Log arcsec, p<0.005).
- There was no significant difference compared to the end of treatment results.



Patching:

- At 28 weeks the stereoacuity improvement was maintained compared to baseline (2.0 vs. 2.9 Log arcsec, p<0.005).
- There was no significant difference compared to the end of treatment results.

CONCLUSIONS

The CureSight™ is NON-INFERIOR to patching in treating amblyopia in children aged 4<9 and suitable for mild and moderate amblyopia.

Visual improvement achieved during the treatment maintain for at least 12 weeks after treatment cessation.

The data support the use of this device as an **alternative to patching**.

