

Amblyopia Treatment Study (ATS) – Patching vs. Correction - 2006



Objective

To compare patching (2 hours daily) to spectacles alone in children ages 3-7 with moderate to severe amblyopia

Methods

Design: RCT

Sample Size: N=180

- Children (3-7) with amblyopia; VA between 20/40 to 20/400
- ≥ 16 weeks of refractive correction if needed prior to randomization

Treatment Groups:

- N=87; Daily patching (2 hrs) + near activities (1 hr) + spectacles (if needed)
- N=93; spectacle correction only (if required)

Outcome Measures:

- BCVA in the amblyopic eye after 5 weeks

Results

Point 1: Amblyopic eye VA improved 0.6 lines more in the patching group

- At 5 weeks, the average increase from baseline was 1.1 lines in the patching group and 0.5 lines in the control group $P = 0.006$; effects were comparable in the moderate and severe subgroups

Point 2: Amblyopic eye BCVA improved 0.9 lines more in the patching group

- At any follow-up visit, the average increase from baseline was 2.2 lines in the patching group and 1.3 lines in the control group $P < 0.001$
- More patients with moderate and severe amblyopia achieved a BCVA between 20/25 and 20/40 after patching vs. spectacles alone; however this was not statistically significant

Point 3: Improvement was also seen in children with mild residual amblyopia following spectacle correction

- A secondary cohort consisted of patients with either a 2-line (0.2 logMAR) interocular difference or acuity of 20/32 in the amblyopic eye and 20/16 in the sound eye
- VA improved by 0.8 lines in the patching group vs. 0.0 lines in the control group
- BCVA improved by 1.4 lines in the patching group vs. 0.8 lines in the control group

TLDR: After a period of spectacle correction, 2 hours of daily patching shows modest improvement in amblyopia in children ages 3-7 when compared to spectacles alone