

Table E2. Techniques of Visual Rehabilitation, Compensatory method

Reference	Year	Hypothesis	Type	#	Intervention	Primary Assessment	Outcome
Nelles (29)	2001	The benefit of compensatory visual field training	RC Pros	21 HH 23 co nt	Use of 1.25 x 3.05m training board with 40 red light bulbs. Pt sits 1.5m away with head stabilizing chin rest. Whenever light was detected, patient pressed button. Group A (control) fixated on center point of board. Group B allowed to use eye movements scan board.	Detection rate and response time to stimuli of specialized training board.	Group A: no improvement of detection rates or response Group B: decreased number of missed stimuli (20 before, and 14 after training), decreased response time (3000ms before vs 1754ms after training); improvement in activities of daily living.
Pambakian (31)	2004	A method of intervention for HH patients based on visual search training	NR Pros	29 HH	20 s over 1 m with use of 21" TV monitor of white stimuli (lines, squares, or triangles) on black background. One target stimulus that differed from distractors by size or orientation (but not both) presented for 3 seconds. Patient fixated on central cross, then searched for target and pressed button when located it. Catch trials 20% of total trials (no target presented).	Response time Activities of daily living survey and subjective questionnaire. Humphrey kinetic, static, and search field perimetry	Mean response time was significantly lower after training (maintained for a m). 3 Patients had longer response times, 4 patients had no change in response time and 22 (76%) patients had significant improvement with less than 10% error rate. Significant improvement in activities of daily living. No change in visual fields. Expansion of visual search fields of 4° visual angle.
Spitzyna (74)	2007	Does small-field optokinetic nystagmus improve reading speed in HA pts?	COST	19 HH & Ale xia	Comparison of OKN and sham therapy. OKN therapy consisted of moving line of text from right to left (from blind to seeing field) at varying speeds (from 85 wpm to 275 wpm). Sham therapy consisted of spot-the-difference between two cartoon pictures. Group 1 received real treatment, Group 2 received 4 w of sham therapy before OKN therapy	Reading speed	Mean reading speed increased by 18% after 4 w in Group 1 (from 95 wpm to 103 wpm) and by 5% in Group 2 (from 82 wpm to 86 wpm).

Schuett (34)	2012	Is visual exploration training task-specific to either training paradigm?	COCT	36 HH	Comparison of VET and RT in a crossover study. Group A received VET first, then RT. RT: single word of 3-12 letters was presented, time of presentation decreased as training progressed. VET: visual search task of single target letter amongst distractor letters, e.g. "T"s amongst "O"s. Detection indication by button press. Response time and errors (no target presentation) were recorded.	Subjective questionnaire. Visual exploration was assessed by task of finding and crossing off 20 black diamonds within 22 distractor black dots with a pencil. Time and number of missed targets were quantified.	Significant benefit from both therapies that was task related. Group A improved mean reading speeds from 105.3 to 134.2 wpm and improved search task from 35.9 to 18.5 seconds with error decrease of 3.2–0.5 missed targets. Group B improved mean reading speeds from 96.3 to 124.6 wpm and improved search task from 36.8 to 20.1 seconds with error decrease of 3.1–0.4 missed targets. All reported that reading and visual exploration felt quicker, easier, and more accurate.
Jacquín-Courtois (32)	2013	Testing a compensatory eye movement training paradigm in patients with HH.	NR Pros	7 HH	1 day of training/evaluations. Pt response by button-press. Visual search task – search for a target object within a scene of a cluttered desk. Different objects used for each trial. For half of the trials, target object was omitted. Rapid search task – 24 green squares presented, one square contains red letter. Each session consists of 96 presentations. Reading task – timed reading of seven lines of text. Patients discuss main topic and words per min calculated. Training: Computer based ramp search. First patients used smooth pursuit of moving stimulus (letter C) from one side to midline. Then C would jump to other side either above or below midline, requiring pts to make saccade into opposite hemifield.	Task-specific response change.	Performance increased in all three visual tasks after intervention.

Abbreviations: #: number of patients, Tx: treatment, w: weeks, m: months, y: years, s: sessions, 2AFC: two alternative forced choice, SF: spatial frequency, DM: double masked, COST: Cross over sham trial, HH: homonymous hemianopia, HRP: High-resolution perimetry, HQ: homonymous quadrantanopia, RC: randomized controlled, RCT: randomized controlled trial, NR: non-randomized, PC: post-chiasmatic, Pros: prospective, Retro: retrospective, SLO: scanning laser ophthalmoscope, TAP: Tubinger automated perimetry, and VEP: visual evoked potentials, VF: visual field, VA: visual angle, pt: patient, Coh: Cohort, D: diopter, FP: Fresnel prisms, Cont: control, wpm: word per minute, OKN: optokinetic nystagmus, VET: visual exploration training, RT: reading training, AVF: automated visual field test.