Assessments Listed in Literature Search

**PICO:** What is the evidence to support occupational therapy interventions for neurovisual deficits in adults with acquired brain injury to improve participation in valued occupations?


- Oculus Twinfield 2 perimeter and Esterman preset program repeated for each eye – used to assess monocular visual fields.
- Fixation was monitored using a video-camera and central probe stimuli
- Suprathreshold Binocular Kinetic Perimetry – measured in 40 patients. See pg 3. – used when Esterman could not determine spatial resolution of the visual field border.
- Visual search – find the number – used as a primary outcome task – looking for numbers 1-4 on a black background with distractors.
- Reading – 200 work passage was read and number of errors was counted.
- ADL Task simulation:
  - Driving hazard perception, obstacle avoidance, visualmotor obstacle.
- **Attention Tasks**
  - Sustained Attention to Response (SART)
  - Test of Everyday Attention (TEA)
- **Subjective Questionnaires**
  - Visual Functioning Questionnaire (how participants rated their difficulty carrying out specific activities)
  - Visual Impairments Questionnaire (how helpful the training was)


- **Primary**
  - ADLS-FIM, Modified Barthel Index, Assessment of Motor Process Skills (AMPS);
- **Secondary outcomes included:**
  - Independence in ADL at the scheduled end of the intervention (ordinal)
- Performance on standardized impairment level measures of perception e.g. RPAB, BORB, VOSP at end of intervention and at six months (ordinal)
- Quality of life measures at six months (ordinal)
- Effects on carer at six months (ordinal);
- Destination on discharge: institutional care setting or not (binary)
- Adverse events, such as death, fatigue, falls, accident rates (binary)


- Phoropter for refractive state
- Ophthalmoscopes - direct and indirect - assess ocular health
- Reading rating questionnaire
- OBER 2
- Visagraph II - reading assessment


- Visual fields (Medmont computerized field analyzer)
- Mars Perceptual Contrast Sensitivity Letter Test
- VA LV VFQ-48 (QOL)
- Pepper Visual Skills Reading Test for speed and accuracy
- NEI-VFQ-25 (QOL)
- Mayo Portland Adaptability Index (QOL)
- Static Scanning (listed as "outcome measure"--no other details provided)
- Mobility Assessment Course (see article for more details)
- The Behavioral Inattention Test-BIT
- The Mars CS Test


- Full optometric assessment measuring: fixational accuracy, saccadic gain and latency, pursuit gain, mean saccade frequency ratio for simulated reading (DEM Test)
- Reading eye movement parameters: words per minute, grade level equivalent, fixations per 100 words, regressions per 100 words, percentage of reading comprehension, duration of fixation in seconds
- Subjective Outcome measures:
  - Reading rating scale questionnaire


- **Goldmann perimeter examination**-- before and after training for possible changes in visual fields
  - Performed by same medical assistant
• **Visual Exploration Test**
  o Apparatus composed of 48 red LEDs served as visual targets, each presented 3x for 100 milliseconds
  o Instructed patient to press button after detecting target
  o “Number of omissions measured separately for each hemifield” (p.668)

• **Reading Test**
  o Examines transfer to a nontrained visual task, 2 standardized reading tests were developed for the assessment of reading time
    ▪ Each had 180 words arranged in 20 lines
    ▪ Mean reading time of healthy controls is 65 s, with SD of 8.5 seconds.
  o Instructed to read the text aloud as accurately as possible without using fingers
  o Time a patient needed to read whole text was measured

• **Search Task**
  o Visually explore a rectangular board with 18 objects (egg, pen, button) that were evenly distributed
  o Asked to find 9/18 objects (3 specific targets in each third of the board which had 6 objects per third) within 1 minute for each target
  o Verbally indicate found target and examiner measured search time for each detected object
  o Patients had to find different objects during pre and post testing

• **Evaluation of Activities of Daily Living**
  o Questionnaire with 5 items describing frequent visual impairments of those with visual field defects
  o Assessed: finding objects on the table, avoiding bumping into objects/persons, eye contact, seeing obstacles, and reading
  o Pre and post training by an OT
  o OT judged each item on a 5-point scale to what extend each patient exhibited the problem in question (OT blinded to group assignments)

• **Electro-oculography**
  o Used to evaluate changes in oculomotor behavior, EOG recorded while subjects performed visual exploration test pre and post
  o The number of saccades and mean amplitude of saccades to the hemianopic side were analyzed


• Systematic Review (which is why some are listed more than once):
  • Mini-Mental State Exam (MMSE)
  • Stroop Neuropsychological Screening Test (SNST)
  • BIT
  • Balloons Test
  • Cancellation tests
  • Reading tests
- Fluff test
- Room description and object-reaching test
- Line, letter, and bell cancellation tasks, copying, line bisection test
- Functional Independence Measure (FIM)
- Analysis or right eye movements
- Line bisection
- Line cancellation, copying a drawing, drawing from memory, reading simple text
- Rivermead Perceptual Assessment Battery (RPAB) 16 subtests, length of hospital stay, BADL score, Functional Improvement (Rivermead Mobility Index, Barthel Index and Canadian Neurological Scale)
- Evaluation of hemispatial neglect (letter cancellation test, Barrage test, Wundt–Jastrow Area Illusion Test, sentence-reading test)
- Eye movements
- Rey–Osterreith complex figure copy
- Neale reading test
- Picture completion
- Block design
- Observers report of neglect
- Modified Mini Mental Status Exam
- Motor Free Visual Perception Test (MVPT)
- Harrington Flocks Visual Screener
- Tangent screen exam
- Varthel ADL mobility score
- Route-finding performance


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*Remaining studies not listed were level V evidence and did not address specific assessments*