Table of Contents

TABLE OF CONTENTS

SECTIONS

1	Why	Evaluate	Vision?

- 1.1 The importance of Vision to Everyday Living
- 1.2 The Role of Visual Processing in Directing Participation in Occupations
- 1.3 The Effect of Vision Impairment on Occupational Performance
- 1.4 The Visual Perceptual Hierarchy Framework for Evaluation and Intervention
- 1.5 The Occupational Therapy Approach to Evaluation
- 1.6 The Disconnect Between the OT Approach and the Traditional Approach to Evaluating Vision
- 1.7 The Rationale for the biVABA Assessments and Test Procedures

2 Types of Vision Impairment Following Acquired Brain Injury and How They Affect Occupational Performance

2.1 Visual Acuity

- 2.1.1 What is Visual Acuity?
- 2.1.2 Deficits in Visual Acuity
 - 2.1.2.1 Disruption of the Ability to Focus an Image on the Retina
 - 2.1.2.2 Disruption of the Ability of the Retina to Process the Image
 - 2.1.2.3 Disruption of the Ability of the Optic Nerve to Relay the Retinal Image
 - 2.1.2.4 Uncorrected Refractive Error
- 2.1.3 Occupational Limitations Caused by Reduced Visual Acuity

2.2 Contrast Sensitivity

- 2.2.1 What is Contrast Sensitivity?
- 2.2.2 Deficits in Contrast Sensitivity
- 2.2.3 Occupational Limitations Caused by Reduced Contrast Sensitivity

2.3 Oculomotor Control

- 2.3.1 What is Oculomotor Control?
- 2.3.2 Deficits in Oculomotor Control
 - 2.3.2.1 Oculomotor Impairment from Paralytic Strabismus
 - 2.3.2.2 Oculomotor Impairment from Traumatic Brain Injury
 - 2.3.2.3 Oculomotor Impairment from Stroke
 - 2.3.2.4 Oculomotor Impairment from Neurodegenerative Diseases
- 2.3.3 Occupational Limitations Caused by Oculomotor Impairment
 - 2.3.3.1 Convergence Insufficiency
 - 2.3.3.2 Diplopia
 - 2.3.3.3 Influence on Participation

2.4 Visual Fields

- 2.4.1 What is the Visual Field?
- 2.4.2 Deficits in the Visual Field
- 2.4.3 Occupational Limitations Caused by Visual Field Deficits

- 2.4.3.1 The Influence of Perceptual Completion on Visual Search
- 2.4.3.2 The Effect of Visual Field Deficit on Performance Skills

2.5 Visual Inattention/Neglect

- 2.5.1 What is Visual Attention?
- 2.5.2 Deficits in Visual Attention from Acquired Brain Injury
 - 2.5.2.1 Neural Networks that Control Attention
 - 2.5.2.2 Visual Spatial Neglect
- 2.5.3 Occupational Limitations Caused by Neglect

3 General Information on Administering the biVABA

- 3.1 What Types of Brain Injury are Appropriate to Evaluate with the biVABA?
- 3.2 Is the biVABA Appropriate to use to Evaluate Children?
- 3.3 When Should You Administer the biVABA Assessments?
- 3.4 General Test Procedures
 - 3.4.1 Use of Eyeglasses for Testing
 - 3.4.2 Testing Order
 - 3.4.3 Modifying Test Instructions
 - 3.4.4 Explaining the Test to the Client
 - 3.4.5 Interpreting Test Results to the Client and Family

4 Test Instructions

4.1 Visual Acuity

- 4.1.1 Assessment Considerations
 - 4.1.1.1 Why You Should Measure Visual Acuity First
 - 4.1.1.2 Room Lighting
 - 4.1.1.3 Viewing Distance
 - 4.1.1.4 Client Response
 - 4.1.1.5 The Client's Primary Language and Reading Grade Level
 - 4.1.1.6 Eye Dominance
 - 4.1.1.7 Distance vs. Near Acuity
 - 4.1.1.8 Use of Prescription Eyewear
 - 4.1.1.9 Visual Complaints
- 4.1.2 Test Instructions
 - 4.1.2.1 Key Client Complaints/Observations
 - 4.1.2.2 Questions about Eyewear, Eye Care and Visual Complaints
 - 4.1.2.3 Pupil Size and Symmetry
 - 4.1.2.4 Eye Dominance
 - 4.1.2.4.1 Alternate Methods for Determining Eye Dominance
 - 4.1.2.5 Distance Acuity
 - 4.1.2.5.1 Modified Procedures for Clients with Limited Language, Cognition, Attention
 - 4.1.2.6 Reading Acuity

4.1.2.7 Contrast Sensitivity

- 4.1.3 Interpreting the Client's Performance on the Acuity Assessments
 - 4.1.3.1 Key Client Complaints/Observations
 - 4.1.3.1.1 Pupil Size and Symmetry
 - 4.1.3.1.2 Eye Dominance
 - 4.1.3.1.3 LeaNumbers Intermediate Acuity Chart
 - 4.1.3.1.4 Warren Text Card
 - 4.1.3.1.5 LeaNumbers Low Contrast Flip Chart

4.2 Oculomotor Control

- 4.2.1 Assessment Considerations
 - 4.2.1.1 The OT Role
 - 4.2.1.2 Visual History
 - 4.2.1.3 Room Lighting
 - 4.2.1.4 Medications
 - 4.2.1.5 Arousal/Attention Level
 - 4.2.1.6 Visual Acuity
 - 4.2.1.7 Client Complaints/Observations
 - 4.2.1.8 The Cardinal Directions of Gaze
 - 4.2.1.9 Characteristics of Cranial Nerve Lesions
 - 4.2.1.10 Corneal Reflections
 - 4.2.1.11 Visual Vestibular Impairment
 - 4.2.1.12 The Best Test Targets
 - 4.2.1.13 Testing Eyes Separately or Together
 - 4.2.1.14 Eye Turns, Head Turns, Head Tilts
 - 4.2.1.15 Near Point of Convergence
 - 4.2.1.16 Diplopia Testing
- 4.2.2 Test Instructions
 - 4.2.2.1 Visual History/Key Observations
 - 4.2.2.2 General Appearance
 - 4.2.2.3 Corneal Reflections
 - 4.2.2.4 Eye Movements
 - 4.2.2.4.1 Tracking Eye Movements
 - 4.2.2.4.2 Convergence
 - 4.2.2.5 Diplopia Testing
 - 4.2.2.5.1 Cover/Uncover Test
 - 4.2.2.5.2 Alternate Cover Test
- 4.2.3 Interpreting the Client's Performance on the Assessments
 - 4.2.3.1 Visual History
 - 4.2.3.2 Key Client Complaints/Observations
 - 4.2.3.2.1 Focusing Difficulty
 - 4.2.3.2.2 Visual Vestibular Impairment
 - 4.2.3.2.3 Diplopia
 - 4.2.3.3 General Appearance

- 4.2.3.4 Corneal Reflections
- 4.2.3.5 Eye Tracking Movements
- 4.2.3.6 Convergence
- 4.2.3.7 Diplopia Testing-Cover/Uncover Test
- 4.2.3.8 Diplopia Testing-Alternate Cover Test

4.3 Visual Fields

- 4.3.1 Assessment Considerations
 - 4.3.1.1 Visual Fields Test Requirements
 - 4.3.1.2 Clients with Low Visual Attention
 - 4.3.1.3 Importance of Clinical Observations
 - 4.3.1.4 Cheating and Test Accuracy
 - 4.3.1.5 Screening vs. Diagnostic Evaluation
 - 4.3.1.6 Relative Visual Field Loss
 - 4.3.1.7 Hemianopia vs. Other Types of Visual Field Deficit
 - 4.2.1.8 Macular Sparing
 - 4.3.1.9 Phantom Vision and Other Co-Impairments
 - 4.3.1.10 Visual Fields Assessments
- 4.3.2 Test Instructions
 - 4.3.2.1 Two-Person Kinetic Confrontation Test
 - 4.3.2.2 Damato 30 Point Multifixation Campimeter
 - 4.3.2.2.1 Campimeter Components
 - 4.3.2.2.2 Test Instructions
 - 4.3.2.2.3 Modifications for Difficult-to-Test Clients
 - 4.3.2.2.4 Recording the Client's Performance
- 4.3.3 Interpreting the Client's Performance on the Assessments
 - 4.3.3.1 Key Client Complaints/Observations
 - 4.3.3.2 Two-Person Kinetic Confrontation Test
 - 4.3.3.3 Damato 30 Point Multifixation Campimeter

4.4 Visual Attention

- 4.4.1 Assessment Considerations
 - 4.4.1.1 Assessment Accommodations
 - 4.4.1.2 Why use Cancellation Tests?
 - 4.4.1.3 Right vs. Left Neglect
 - 4.4.1.4 Distinguishing Between Left Neglect and Left Hemianopia
 - 4.4.1.5 Nonlateralized Inattention
 - 4.4.1.6 Importance of Providing Cues and Do-Overs
 - 4.4.1.7 Why are the Visual Search Subtest Forms So Wide?
 - 4.4.1.8 Why are There so Many Visual Search Subtests?
 - 4.4.1.9 Do I Need to Administer the Visual Search Subtests in a SPECIFIC Order?
 - 4.4.1.10 Why include a Design Copy Test?

- 4.4.2.1 Visual Search Subtest
- 4.4.2.2 Design Copy
- 4.4.3 Interpreting the Client's Performance on the Assessments
 - 4.4.3.1 Visual Search Subtests
 - 4.4.3.1.1 Interpreting Accuracy and Completion Time
 - 4.4.3.1.2 Effective Search Strategies
 - 4.4.3.1.3 Ineffective Search Strategies
 - 4.4.3.1.4 Key Observations
 - 4.4.3.2 Key Observations on the Design Copy Test

4.5 Additional Attention/Vision Assessments

- 4.5.1 Assessment Considerations
 - 4.5.1.1 Which Assessments are Appropriate for Clients with Suspected Neglect?
 - 4.5.1.2 Which Assessments are Appropriate for Clients with Suspected Hemianopia?
 - 4.5.1.3 Why do the Telephone Number Copy Test and the ScanCourse Require Do-Overs?
- 4.5.2 Telephone Number Copy Test Instructions
 - 4.5 2.1 Interpreting Client Performance on the Telephone Number Copy Test 4.5.2.1.1 Key Observations on the Telephone Number Copy Test
- 4.5.3 ScanBoard Instructions
 - 4.5.3.1 Interpreting the Client's Performance on the ScanBoard Test
 - 4.5.3.1.1 Effective Search Strategies on the ScanBoard Test
 - 4.5.3.1.2 Ineffective Search Strategies on the ScanBoard Test
 - 4.5.3.1.3 Key Observations on the ScanBoard Test
- 4.5.4 ScanCourse Instructions
 - 4.5.4.1 Interpreting Client Performance on the ScanCourse Test
 - 4.5.4.2 Key Observations on the ScanCourse Test
- 4.5.5 Additional Assessments to Identify Functional Limitations
 - 4.5.5.1 Self-Report Assessment of Functional Visual Performance
 - 4.5.5.2 Catherine Bergego Scale
 - 4.5.5.3 Pepper Visual Skills for Reading Test
 - 4.5.5.4 Light Boards

5 Intervention

- 5.1 Key Questions to Guide Setting Goals and Selecting Interventions
- 5.2 Setting Goals
 - 5.2.1 Setting the Best Goal
- 5.3 Team Approach is Best
 - 5.3.1 Collaborating with Eye Doctors
 - 5.3.1.1 Ophthalmologist vs. Optometrist

rable of	Content	S		
	5.3.2 5.3.3	 5.3.1.2 Reasons to Consult Early with Eye Doctors Collaborating with Vestibular Specialists Collaborating with Non-Medical Vision Rehabilitation Professionals 5.3.3.1 Certified Orientation Mobility Specialist (COMS) 5.3.3.2 Certified Vision Rehabilitation Therapist (CVRT) 5.3.3.3 Certified Low Vision Therapist (CLVT) 5.5.3.4 Orthoptist 		
5.4	Evalua	tion is the First Step in Intervention		
5.5	Intervention for All Types of Vision Impairment			
	5.5.1	•		
	5.5.2			
5.6		ention for Reduced Acuity		
		Reduced Acuity = Reduced Participation		
	5.6.2	Address Correctable Vision Loss		
		5.6.2.1 Determine Whether Vision can be Improved		
		5.6.2.2 Evaluate the Client's Eyewear		
	5.6.3	Inform the Rehab Team		
	5.6.4	Advocate for the Client		
	5.6.5	Ensure the Client Receives Accessible Handouts		
	5.6.6	If Your Client has Reduced Contrast		
	5.6.7	If Your Client has Low Vision		
	5.6.8	Connect the Client with Free Resources		
5.7	Intervention for Oculomotor Impairment			
	5.7.1	Ophthalmology/Optometry Role		
		5.7.1.1 Lenses		
		5.7.1.2 Prism		
		5.7.1.3 Occlusion		
		5.7.1.4 Eye Exercises		
		5.7.1.5 Surgery		
	5.7.2	OT Role		
		5.7.2.1 Education		
		5.7.2.2 Environment and Task Modification		
5.8		ention for Hemianopia		
		8.1 Education		
	5.8.2			
	5.8.3	, , ,		
		5.8.3.1 Light Boards		
		5.8.3.2 Dual Scanning Activities		
	ΓΟ 4	5.8.3.3 Activities for Lower Functioning Clients		
	5.8.4	Occupation-Based Community Activities		
	5.8.5	Supportive Habits and Routines The Client Who Wants to Rosumo Driving		
	5.8.6 5.8.7	The Client Who Wants to Resume Driving Reading		
	10/			

5.8.7.1 Intervention for the Client Strongly Motivated to Resume Reading Print

5.8.7.2 Key Interventions for ALL Clients with Reading Limitations

5.8.8 Handwriting

5.9 Intervention for Neglect

- 5.9.1 Chronic vs. Acute Neglect
- 5.9.2 Education
- 5.9.3 Environment and Task Modification
- 5.9.4 Compensatory Visual Scanning Training
 - 5.9.4.1 Visualization
- 5.9.5 Sensory Input Strategies
- 5.9.6 Occupation-Based Intervention
 - 5.9.6.1 Provide Explicit Instructions and Outcomes
 - 5.9.6.2 Repetition is Important
- 5.9.7 Metacognitive Approaches
- 5.10 Complex Visual Processing
- 5.11 Final Thoughts on Intervention

6 Appendices

- A. References
- B. Psychometric Properties of the biVABA
- C. biVABA Assessment Forms
- D. Catherine Bergego Scale
- E. Standardized Directions for the ScanCourse
- F. Percentage Conversion Chart for the Visual Search Subtests
- G. Creating Visible and Readable Documents
- H. Interventions to Manage Diplopia due to Paralytic Strabismus in the Adult Client
- I. Opinion: Why You Should Reconsider using Therapy Time to Provide Eye Exercises to Clients with Oculomotor Impairment from Acquired Brain Injury
- J. Selected Illustrations from Josephine C. Moore, OT, PhD
- K. Test Items and Care Instructions

biVABA Parts Order Form