

3 General Information About Using the biVABA

This section provides general information that applies to all assessments and types of clients.

3.1 What Types of Brain Injury are Appropriate to Evaluate with the biVABA?

The biVABA assessments evaluate basic visual functions and visual attention. The battery was designed specifically to assess changes in visual ability in persons with brain injury from CVA and TBI (including concussion), brain tumor, anoxia, and degenerative neurological diseases like Parkinson's Disease, Alzheimer's Dementia, and multiple sclerosis. The assessments that screen visual acuity, reading acuity, contrast sensitivity and visual field can also be used to evaluate clients with low vision from age-related eye disease (macular degeneration, glaucoma, or diabetic retinopathy-see section 2.1.2.2).

3.2 Is the biVABA Appropriate to Use to Evaluate Children?

Basic visual functions (acuity, contrast sensitivity, eye movements, and visual field) are established in early childhood. The assessments that screen these functions can be given without modification to children ages 12 and older. Some of the assessments can be used with modification to evaluate younger school age children depending on the child's reading level.

These are important considerations if you use the assessments with children under 12.

- The client instructions are written for adults; you may need to simplify instructions.
- The assessments require that the client can reliably recognize single letters, numbers, and frequently used words. The *word search* visual search subtest (see section 4.4.2.1) for screening visual attention uses 2 kindergarten-first grade words: *the* and *at* and the sentences on the Warren Text Card (see section 4.1.2.6) require a 5th grade reading level.
- The Damato campimeter was designed for an adult-size head. Some children may subjectively meet this requirement. The 2-person Kinetic Confrontation Test only requires that the child can follow simple directions and attend well enough not to cheat.
- The interpretation of the test performance sections provided in the manual are based on research completed on adults with brain injury. This will specifically affect the interpretation of test results for visual attention and oculomotor control.

3.3 When Should You Administer the biVABA Assessments?

There are two reasons why It's important to begin evaluating vision as soon as possible

1. Vision is the primary sensory system we use to engage and interact with the world. Because of this, vision impairment significantly impacts the ability to participate in daily occupations and navigate through environments.

2. Visual processing provides a foundation for cognition and motor performance (see section 1.3). As a result, vision impairment may appear as cognitive and motor impairment and may influence client performance on cognitive and motor assessments.

The biVABA includes structured observational assessments. Client observation is the cornerstone of a functional evaluation and our most valuable evaluation tool. It provides insight into client's ability to use vision to complete occupations and will help you select the standardized assessment that will best increase your understanding of the client's limitations and strengths. The observation checklists are especially helpful when evaluating lower functioning clients and clients in the early stage of recovery. You can complete the observation checklists by directly observing the client, by interviewing the client/family, and/or by comparing notes with other members of the rehab team.

The behaviors on the checklists are those most often observed in clients with visual impairment. Each assessment lists the behavior most often associated with that specific vision impairment. There is a little overlap between assessments because some behaviors are associated with more than one type of vision impairment. Observing a *pattern* of behaviors combined with *errors on other assessments* provides much stronger verification of a visual processing deficit than observing a single behavior. These observations also help to establish the link between visual impairment and limitations in daily occupations needed to justify OT services.

3.4 General Test Procedures

3.4.1 Use of Eyeglasses for Testing

Many clients will have pre-existing eye conditions (often from childhood) that have been corrected for with eyeglasses. These include refractive errors (myopia-nearsightedness, hyperopia-farsightedness, and astigmatism-see illustration 2 in Appendix J); phoria, and other muscle imbalances. The biVABA assessments assume the client used their best corrected vision to complete the assessment. If the client's eyeglasses are missing or broken, note this in your documentation, and increase the size, luminance, and contrast of key test components to ensure they are visible. If you test the client without their eyeglasses, remember any abnormal eye position or movement you observed may be because the client's eyeglasses corrected for that deficiency. Also remember that a client with a history of childhood oculomotor impairment may display deviant eye movement without experiencing a functional limitation.

3.4.2 Testing Order

The biVABA is a collection of independent assessments that measure different aspects of visual perceptual processing. You are not required to administer every assessment. Instead choose the assessments that will provide the most information about the client's vision based on your initial observations. That said, the hierarchical and integrated nature of visual perceptual processing (depicted by the visual perceptual hierarchy in section 1.4) dictates that assessment

be completed from the bottom up following the order that each level contributes to perceptual processing. Evaluation should start with the foundation skills (acuity, visual field, and oculomotor control) and continue on to assessment of visual attention and scanning and visual cognition. The foundation skills also have a hierarchy. Visual acuity and contrast sensitivity are considered core visual assessments that should be completed on every client (see section 4.1.1.1). They must be administered first to 1) establish a general baseline for how well the client sees and 2) determine whether the client can see the test items used for the other assessments. Likewise, the status of the client's visual field must be known in order to accurately identify deficits in oculomotor control and visual attention. Following this order provides the most accurate picture of the client's capabilities and limitations in visual processing.

3.4.3 Modifying Test Procedures

The biVABA does not focus on diagnosing or labeling a specific vision impairment. The purpose of the biVABA is to assist you to identify the client's visual strengths and weaknesses and link them to functional limitations to develop an effective intervention plan. It is easier to figure out the best intervention by observing the client's visual approach to a task and their ability to modify an unsuccessful strategy to complete a task. Flexible test procedures are required for this assessment approach. It's important that a client be able to position test materials as desired and that you are free to experiment with cuing and modifications to assist the client to complete the task. Modify biVABA test procedures as you desire as long as you don't alter the fundamental purpose of the assessment. Examples of suggested modifications are included with the test instructions in Section 4. Be sure to document the success or failure of the modification on the assessment form.

3.4.4 Explaining the Test to the Client

Gaining insight into how vision has changed empowers the client to adjust to vision loss and learn to use their current vision to participate in daily occupations. Use the evaluation process to educate the client. Provide as much explanation about the assessment as possible without overwhelming or confusing the client. Describe the aspect of vision you are evaluating, how it contributes to the client's ability to use vision for activities, how it might have changed following brain injury, and how the assessment will measure it. Keep your explanations short and simple; use everyday terms (e.g., use *field cut* instead of *hemianopia*); avoid medical terms (e.g., use *eye turn* instead of *strabismus*), abbreviations (e.g., arm instead UE) and OT centric terms, (use *looking* instead of *scanning*). Do not worry that these explanations give the client an unfair advantage in completing the assessment. If a significant disability exists, the client will still make errors despite this added information. Examples of how to explain each assessment to the client are included in the test instructions in Section 4.

3.4.5 Interpreting Test Results to the Client and Family

Just as important as understanding the purpose of the test is the client/family understanding of their test performance. Test results should be described in terms of how they affect the client's ability to complete daily activities. For example, if the client misses test targets on the left side of a visual search subtest due to an asymmetrical search pattern, you might explain that he uses this same pattern when trying and failing to locate his toothbrush. Test interpretation provides a great opportunity to educate the client/family and increase their understanding of the client's visual impairment.

Persons with normal visual processing can easily complete the biVABA assessments and most clients don't perceive the assessments to be particularly challenging. Always allow a client to retake an assessment to improve their performance. If the client's performance does improve, it is a positive indication of their ability use feedback or practice to improve. If the client's performance does not improve, it indicates limited insight or learning capacity. Either result provides useful feedback to the client and helps you establish appropriate goals and time frames for intervention.