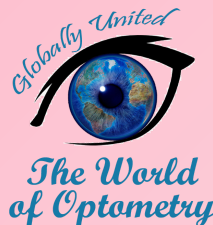
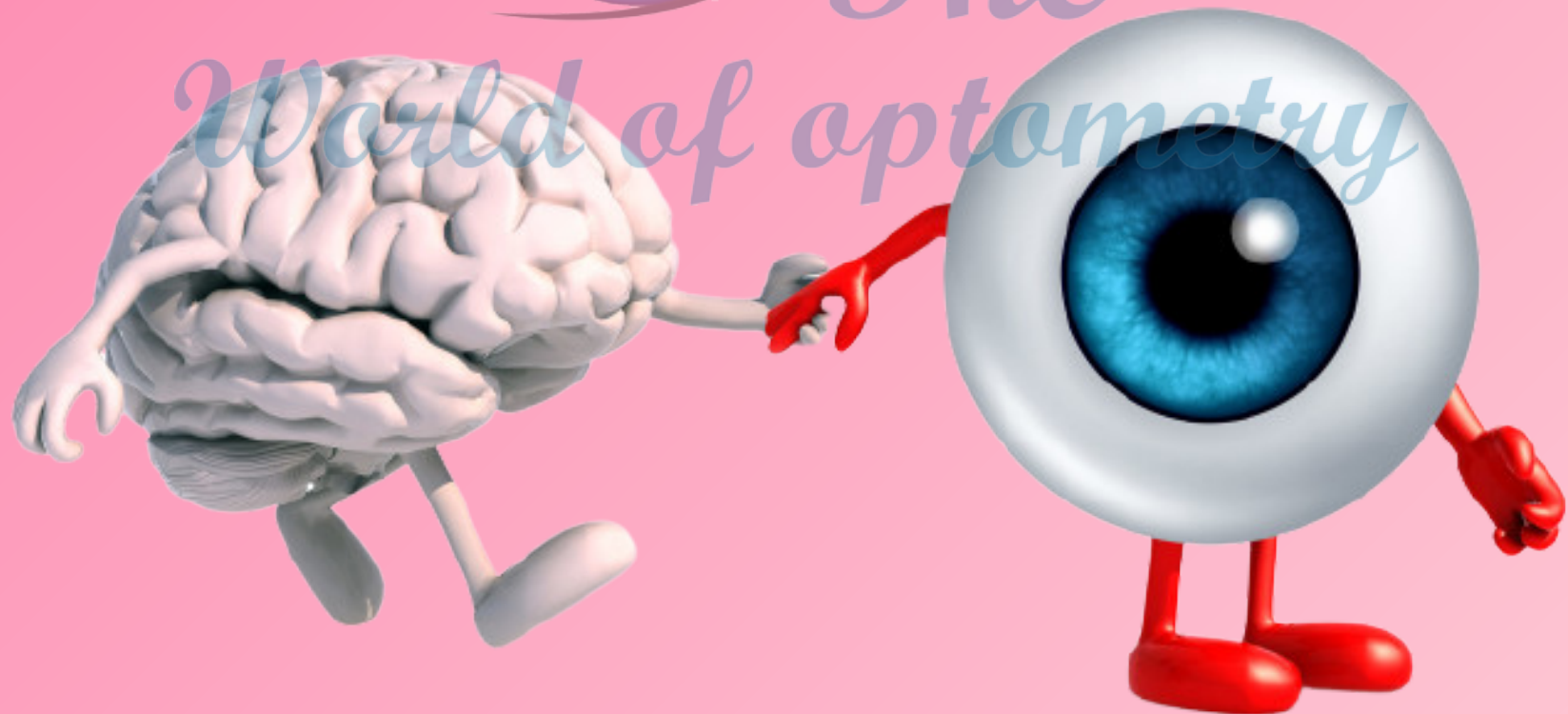


# TWOP Discussion

**BINOCULAR AND ACCOMMODATIVE  
PROBLEMS ASSOCIATED WITH ACQUIRED  
BRAIN INJURY**



#TwopDiscussion

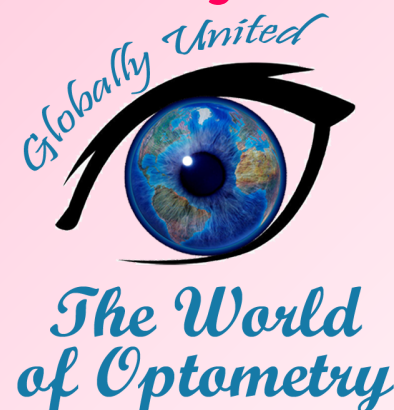
# INTRODUCTION

ABI is generally used to refer to both traumatic brain injury (TBI) and stroke or cerebrovascular accident (CVA).

TBI also refers as an occurrence of injury to the head that is documented in a medical record, with one or more of the following conditions attributed to the head injury:

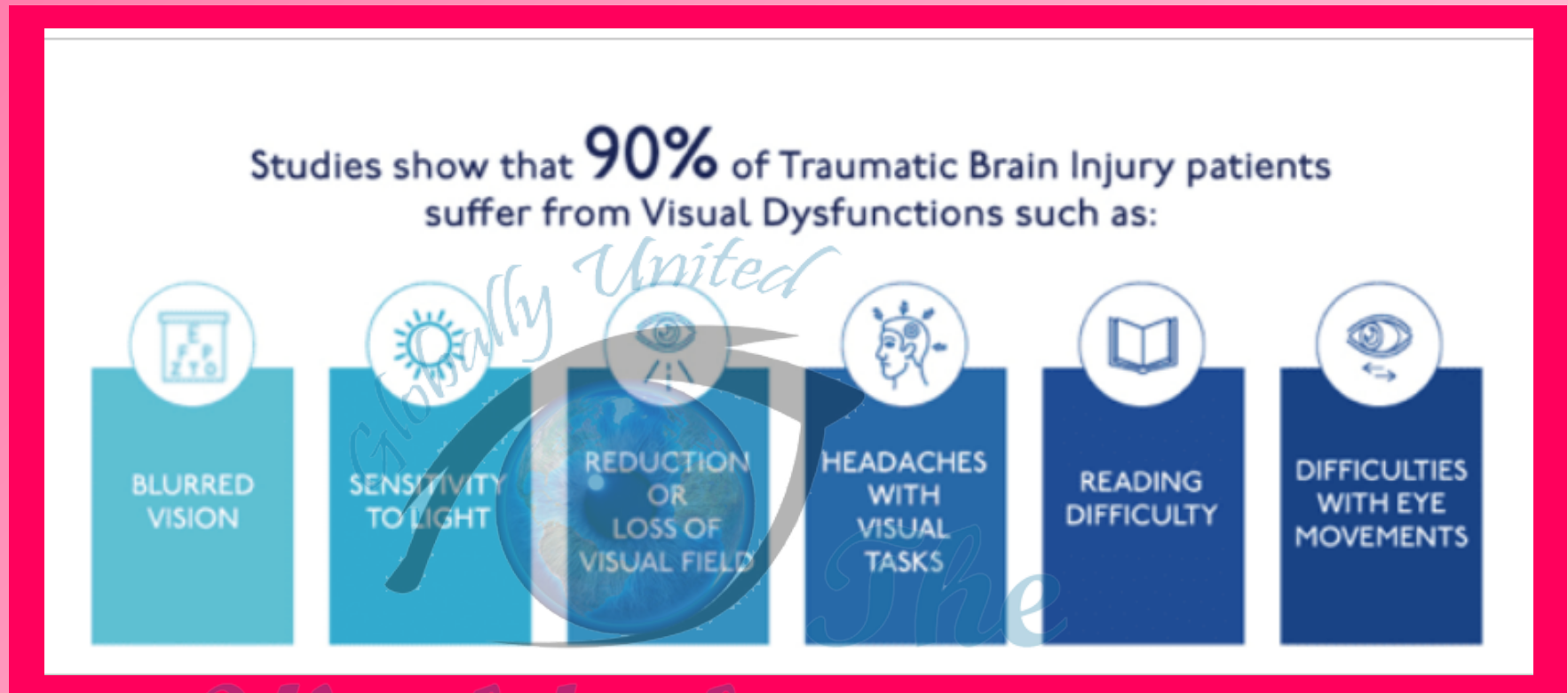
- **Observed or self-reported decreased level of consciousness**
- **Amnesia**
- **Skull fracture**
- **Objective neurologic or neuropsychological abnormality**
- **Diagnosed intracranial lesion**

TBI may result in significant impairment of an individual's physical, cognitive, and psychosocial functioning

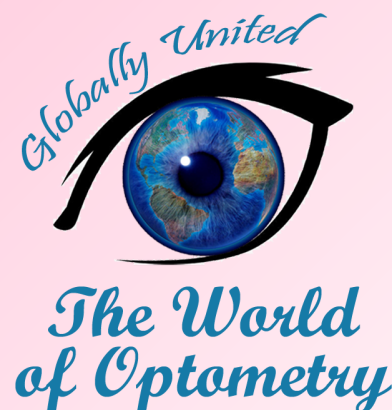


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# CHALLENGES



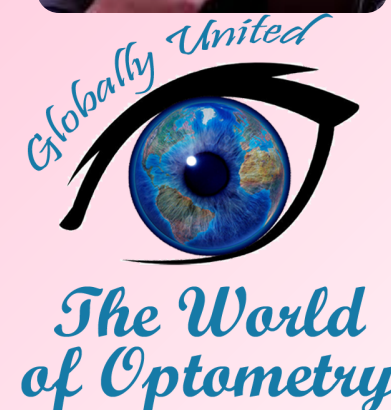
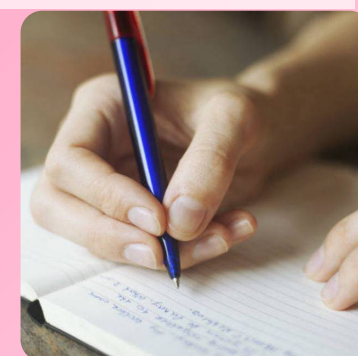
- The treatment of binocular vision, accommodative, and eye movement disorders related to acquired brain injury (ABI) is one of the more challenging aspects of optometric practice.



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# OPTOMETRIST ROLE

- Vision problems are common after ABI, and they have a significant negative impact on common activities of daily living, such as reading, writing, shopping, dressing, sports, and driving.
- The optometrist's role includes management of refractive error; binocular vision, accommodative, and eye movement disorders; visual field loss; ocular disease; and other visual manifestations of ABI.
- Due to the complexity of ABI, it is crucial for optometrists to work closely with the rehabilitation team.



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# SYMPTOMS

Symptoms of Vision Problems Associated with Acquired Brain Injury

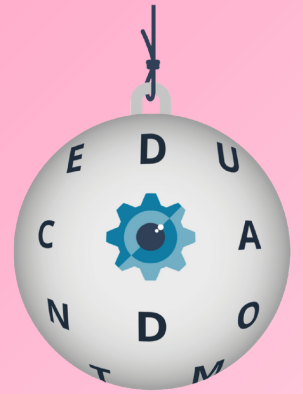
- **Eyestrain**
- **Headaches**
- **Blurred vision**
- **Double vision**
- **Inability to read**
- **Difficulty concentrating on reading material**
- **Loss of place when reading**
- **Poor balance and coordination**
- **Dizziness**
- **Light sensitivity**



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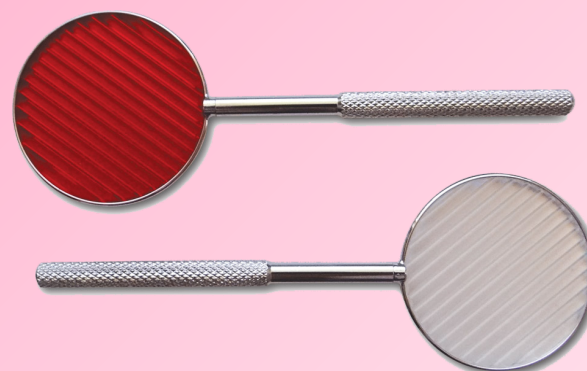
# EVALUATION

- Tests For Accommodation
- Tests For Convergence Anomalies
- Tests For Eye Movement Disorders
- Tests For Visual Field Loss



## Other important testing:

- Fixation disparity testing
- Double Maddox rod test
- Objective eye movement recording (Visagraph)
- Diagnostic occlusion



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# NEURO-OPTOMETRIC EVALUATION

A neuro-optometry evaluation involves measuring and examining how the eyes and the brain work together to see if there are areas of dysfunction that are causing symptoms:

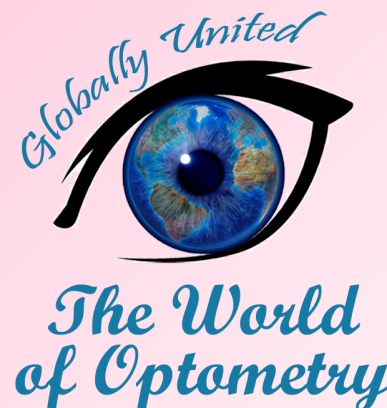
**Refraction**

**Motor  
Evaluation**

**Orthoptics**

**Eye  
Movement  
testing**

**Oculomotor  
function  
testing**

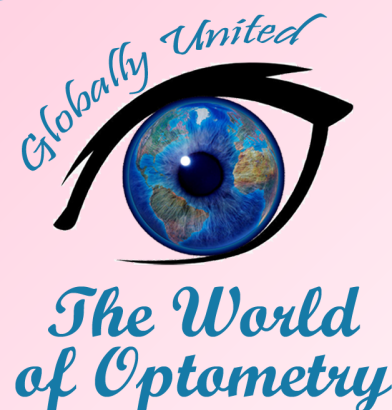


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# SEQUENTIAL CONSIDERATION

Sequential Considerations in the Management of Nonstrabismic Binocular Vision, Accommodative, and Eye Movement Disorders

- Optical correction
- Added lens power
- Horizontal or vertical prisms (yoked prisms/pele prisms)
- Occlusion in cases of diplopia
- Vision therapy
- Surgery



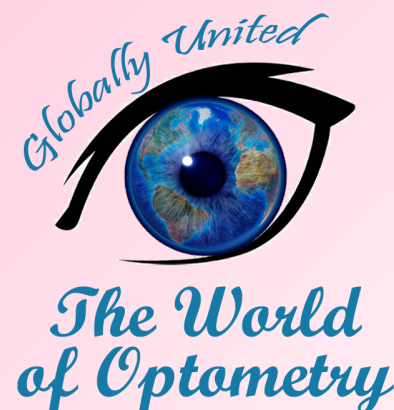
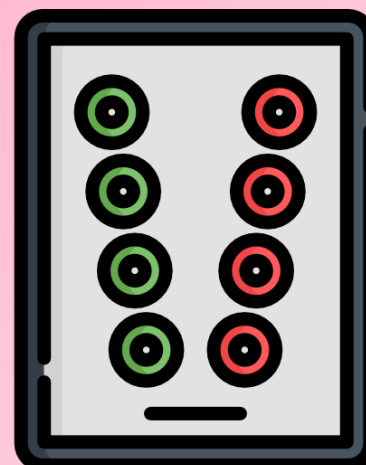
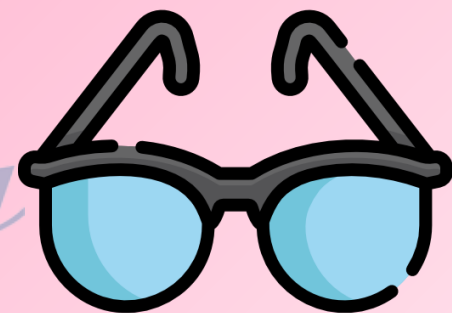
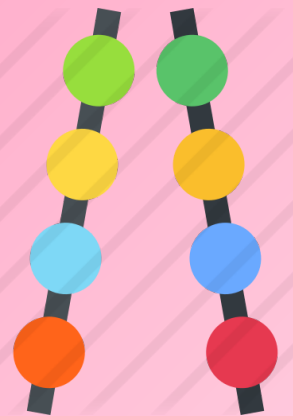


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# VISION THERAPY

Neuro-optometric vision therapy approach:

- Orthoptic vision therapy ( to improve Binocular function)
- Behavioral/perceptual vision therapy – eye exercises ( to improve visual processing and visual perception)



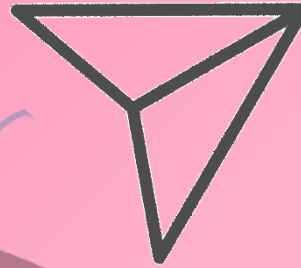
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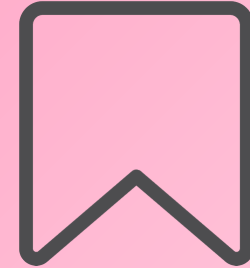
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