



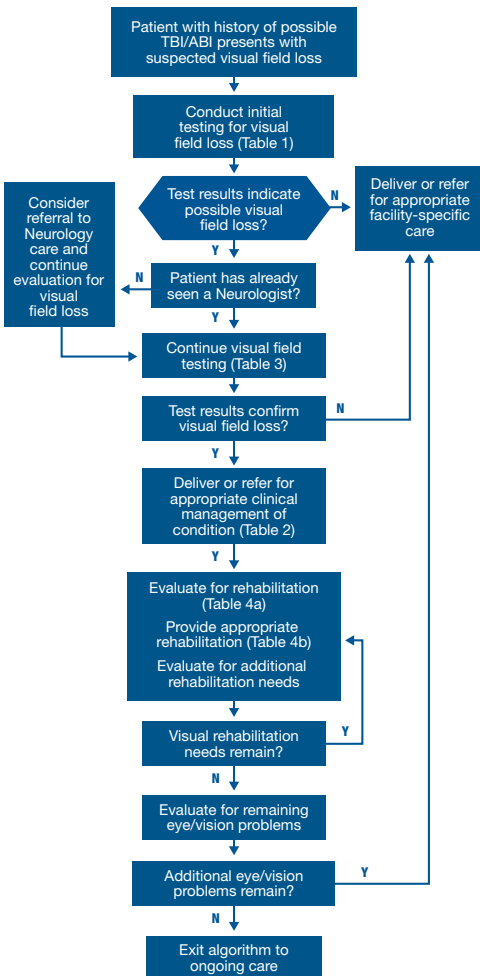
VISION CENTER  
OF EXCELLENCE

ALGORITHM CARDS FOR THE EYE CARE  
PROVIDER AND REHABILITATION SPECIALIST

# REHABILITATION OF PATIENTS WITH VISUAL FIELD LOSS ASSOCIATED WITH TRAUMATIC OR ACQUIRED BRAIN INJURY

# REHABILITATION OF PATIENTS WITH VISUAL FIELD LOSS ASSOCIATED WITH TRAUMATIC OR ACQUIRED BRAIN INJURY

These algorithm cards are intended to help guide eye care providers and rehabilitation specialists in the clinical management and rehabilitation of visual field loss associated with traumatic brain injury/acquired brain injury (TBI/ABI). This algorithm is provided as a clinical and rehabilitative aid and should not replace sound clinical judgement nor standard practice when caring for a patient.



# REHABILITATION OF PATIENTS WITH VISUAL FIELD LOSS ASSOCIATED WITH TRAUMATIC OR ACQUIRED BRAIN INJURY

## Table 1: Initial Testing for Visual Field Loss

Confrontation field testing (non-seeing to seeing)\*

Central visual acuity measurement

Amsler grid/facial recognition testing

*\*If not already completed as part of basic eye/vision exam*

## Table 2: Providers for Clinical Management and Rehabilitation of Visual Field Loss and Related Conditions

Optometrist/Ophthalmologist

Neurologist/Neuro-Ophthalmologist

Occupational/Physical Therapist

Audiologist\*

Low Vision or Blind Rehabilitation Specialist  
(Veterans Affairs facilities)

Certified Driver Evaluation Specialist

*\*Hearing loss may compound spatial awareness difficulties caused by visual field loss*

## Table 3: Visual Field Testing (Perimetry)

Humphrey/Humphrey Esterman

Octopus

Goldmann

## Types of Visual Field Loss

- **Hemianopia/Quadrantanopia:** Characterized by the complete loss of the left or right half of the field of vision, or a smaller segment due to injury within the visual projections of one hemisphere; may impact patient mobility
- **Central Scotoma:** Characterized by a centrally located area or areas of vision loss that reduce visual acuity
- **Peripheral Scotoma:** Characterized by focal loss of portions of the peripheral field of vision, including hemianopia, quadrantanopia, ring scotoma and arcuate field defects; may impact patient mobility
- **Monocular Vision:** Characterized by the total loss of vision in one eye

# REHABILITATION OF PATIENTS WITH VISUAL FIELD LOSS ASSOCIATED WITH TRAUMATIC OR ACQUIRED BRAIN INJURY

**Table 4a:** Functional Visual Impact Tests/Procedures

Functional Task	Visual Impact Test
Scanning	<ul style="list-style-type: none"> <li>• biVABA (portion)</li> <li>• DEM (adult)</li> <li>• King-Devick</li> </ul>
Visual Attention	<ul style="list-style-type: none"> <li>• biVABA</li> <li>• Rivermead (will rule out presence or absence of neglect)</li> <li>• Dynavision</li> <li>• Wayne Fixation</li> <li>• Useful Field of View</li> </ul>
Reading/Near Vision	<ul style="list-style-type: none"> <li>• biVABA</li> <li>• Smith-Kettlewell Reading Test (SK Read)</li> <li>• Pepper Test</li> <li>• Minnesota Low-Vision Reading Test (MN Read)</li> <li>• Visagraph</li> </ul>
Visual Perception	<ul style="list-style-type: none"> <li>• Motor-Free Visual Perception Test (vertical is recommended but not always available)</li> <li>• Test of Visual Perceptual Skills (TVPS)</li> <li>• DVPT-Adult</li> <li>• Home Therapy System CPT Program</li> </ul>
Functional Independence	<ul style="list-style-type: none"> <li>• Functional Independence Measure (FIM)</li> </ul>
Quality of Life (QOL)	<ul style="list-style-type: none"> <li>• National Eye Institute Visual Functioning Questionnaire (NEI-VFQ-25) with 10 item Neuro-Ophthalmic Supplement</li> <li>• College of Optometrists in Vision Development (COVD) Quality of Life Assessment</li> </ul>

**biVABA** = brain injury visual assessment battery for adults, **DEM** = developmental eye movement, **DVPT** = developmental visual perception test, **CPT** = computer perceptual therapy

# REHABILITATION OF PATIENTS WITH VISUAL FIELD LOSS ASSOCIATED WITH TRAUMATIC OR ACQUIRED BRAIN INJURY

**Table 4b:** Rehabilitation of Visual Field Loss

Rehabilitation	Hemianopia/ Quadrantanopia	Central Scotoma	Peripheral Scotoma	Monocular Vision
Awareness/sensory integration	x			
Environment training	x	x	x	x
Scanning	x	x	x	x
Reading strategies	x	x		
Compensatory aids	x	x	x	
Prisms	x			
Near optical aids (magnifiers)		x		
Telescopes		x		
Reverse telescopes			x	
Eccentric viewing	x	x		
Mobility training	x	x	x	x
Fitness to drive	x	x	x	x

**VISION CENTER OF EXCELLENCE**



Defense Health Agency  
health.mil/vce

®

Revised Date: 27 April 2016