Neuro Nights – Vision

The Impact of Vision Impairments After Brain Injury

Who Can Help with Vision Issues?

October 6, 2021
Jodi Jones, OTR/L
### Impact of Vision Impairments

**Most Common Deficits**

- Visual Field Loss
- Ocular Muscle Dysfunction
- Eye Movement Disorders
- Accommodative Dysfunctions
- Binocular Dysfunctions
- Neglect
- Visually-based Vestibular Dysfunction
- Perceptual Dysfunction

---

Impact of Vision Impairments

Most Common Deficits – Visual Field Loss

- Central Field Loss
- Inferior Field
- Superior Field
- Hemianopsia
Impact of Vision Impairments

Most Common Deficits – Ocular Muscle Dysfunction

- Diplopia, aka Double Vision
- Vertigo
- Confusion
- Clumsiness
- Motion Sickness
- Poor Spatial Awareness
Impact of Vision Impairments

Most Common Deficits – Eye Movement Disorders

- **Saccades** - Fast, simultaneous movements in the same direction to change the point of fixation.

- **Pursuits** - Eye movements that allow smooth, continuous viewing of a moving object.

Roadside joggers endure sweat, pain and angry drivers in the name of fitness. A healthy body may seem reward ...


http://www.askdrpearson.com/AboutReading_DRP.html
Impact of Vision Impairments

Most Common Deficits – Accommodative Dysfunctions

- Most common deficit following brain trauma
- Difficulty with near work
- Appear to have ↓’d concentration or comprehension
- Very conscious effort to clear blurred images
- Eye strain and visual fatigue
Impact of Vision Impairments

Most Common Deficits – Binocular Dysfunctions

- A vergence eye movement is the simultaneous movement of both eyes in opposite directions to obtain or maintain single, binocular vision.

- Convergence

- Divergence

- May require vision therapy

http://www.forbestvision.com/accommodation-and-convergence/
Impact of Vision Impairments

**Most Common Deficits - Neglect**

- A perceptual impairment that prevents people from being able to attend to one side of space
- Can be difficult to differentiate hemispatial neglect from a homonymous hemianopsia
- Increased risk of falling
Impact of Vision Impairments

Most Common Deficits – Visually-based Vestibular Dysfunction

- Blurred vision
- Nystagmus
- Oscillopsia
- Postural instability
- Spatial disorientation

Difficulties with:
- Self-Care
- Sleep
- Driving
- Work, School
- Leisure
Impact of Vision Impairments

Most Common Deficits – Perceptual Dysfunction

- Form discrimination

![Image of button and coin](button.png) or ![Image of coin](coin.png)
Impact of Vision Impairments

Most Common Deficits – Perceptual Dysfunction

- Depth Perception
Impact of Vision Impairments

Most Common Deficits – Perceptual Dysfunction

- Figure Ground
Impact of Vision Impairments

Most Common Deficits – Perceptual Dysfunction

- Visual Imagery
How Can Vision Experts Help?

- Quantitative Assessments
  - Accuracy
  - Timing/Speed
  - Amount of assistance or cueing needed

- Qualitative Assessments
  - Clinical Observation
  - Dynamic Assessment
  - What are your roles, responsibilities?
Thank you!!

Jodi Jones, OTR/L
Dodd Rehabilitation Hospital
Jodelle.Jones@osumc.edu