
# 2025 North Carolina Brain Injury Conference

## *Proving the Invisible Injury: TBI Caused by Motor Vehicle Accidents—A Comprehensive Review of Legal Challenges in Proving Brain Injury and Related Disabilities*

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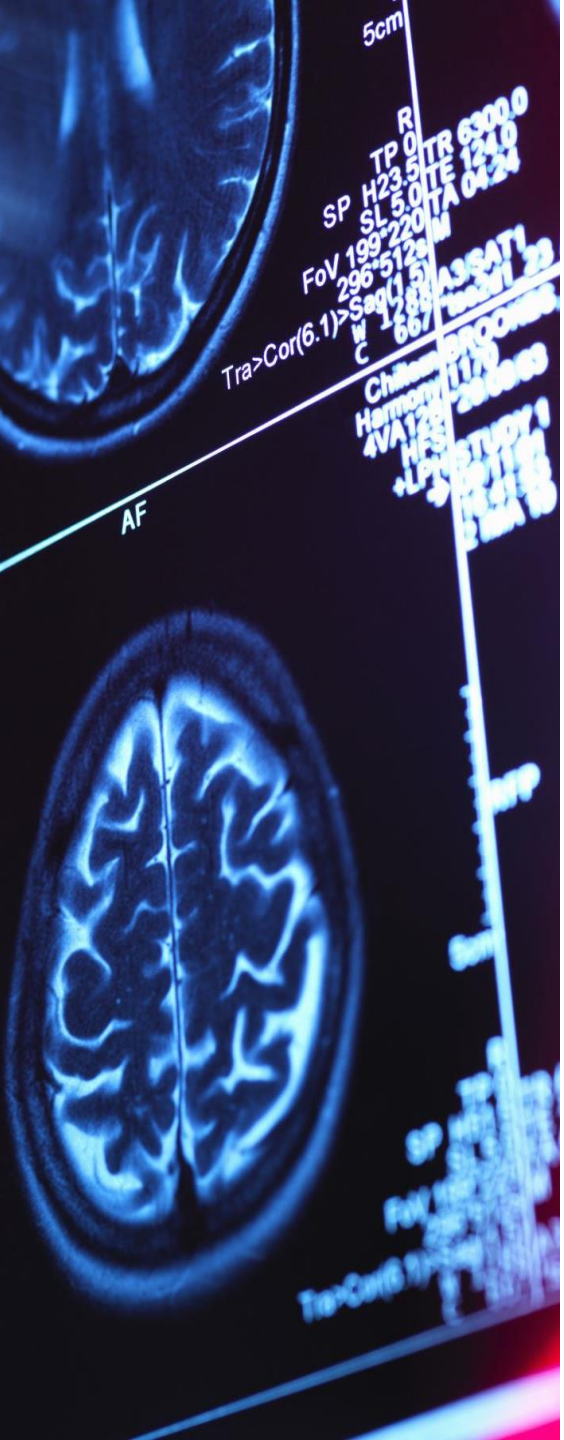



# Understanding Traumatic Brain Injuries

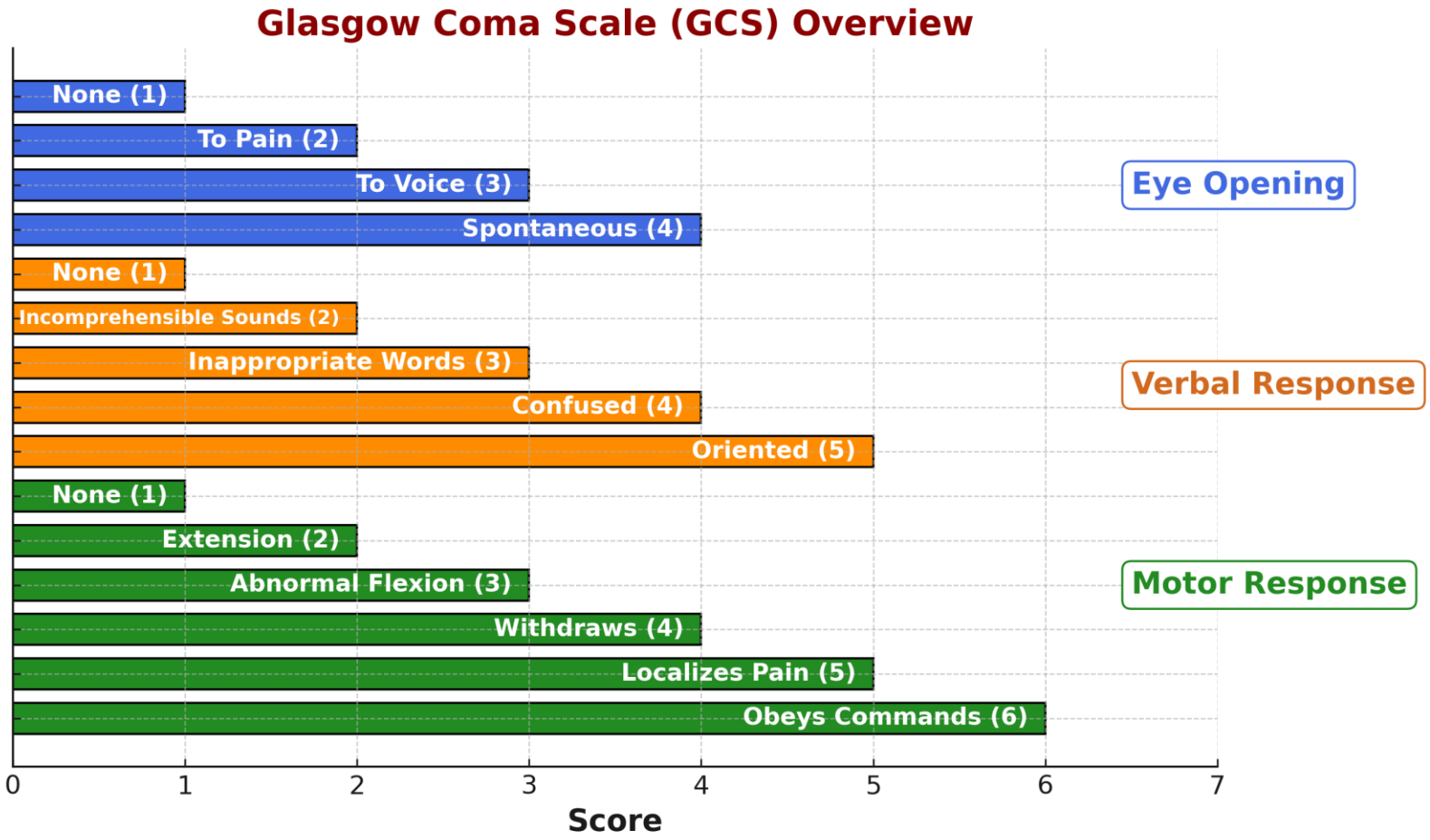
**Medical Definition: An alteration in brain function or evidence of brain pathology caused by external force.**

**Mild TBI Characteristics:**

- **Brief or no loss of consciousness**
- **Glasgow Coma Scale score of 13-15**
- **Post-traumatic amnesia < 24 hours**
- **Normal structural imaging (CT/MRI)**

**Expert Insight: “CT scans are very good at picking up blood in the brain, but they don't really pick up on what's going on as far as the performance of the brain.” - Dr. Jeffrey Ewert, Neuropsychologist**

# GLASGOW COMA SCALE



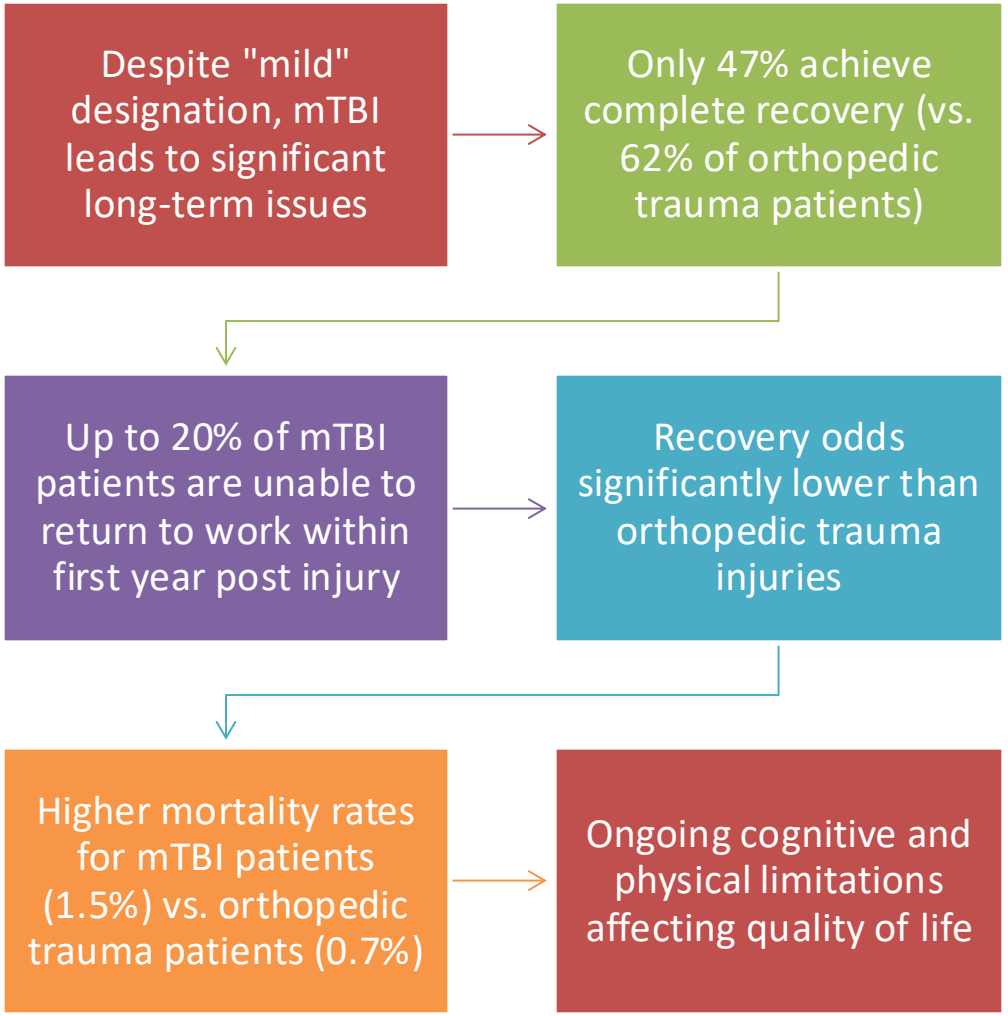
# Motor Vehicle Accidents are the Second Leading cause of TBI

- **Up to 56% of mild TBIs are missed in emergency department evaluations.**

- **5.3 million Americans living with TBI-related disabilities.**

**Sources : Centers for Disease Control and Prevention and Powell, J. M., Ferraro, J. V., Dikmen, S. S., Temkin, N. R., & Bell, K. R. (2008). *Accuracy of mild traumatic brain injury diagnosis*. Archives of Physical Medicine and Rehabilitation, 89(8), 1550–1555**

# Prognosis Challenges in Mild Traumatic Brain Injury (mTBI)



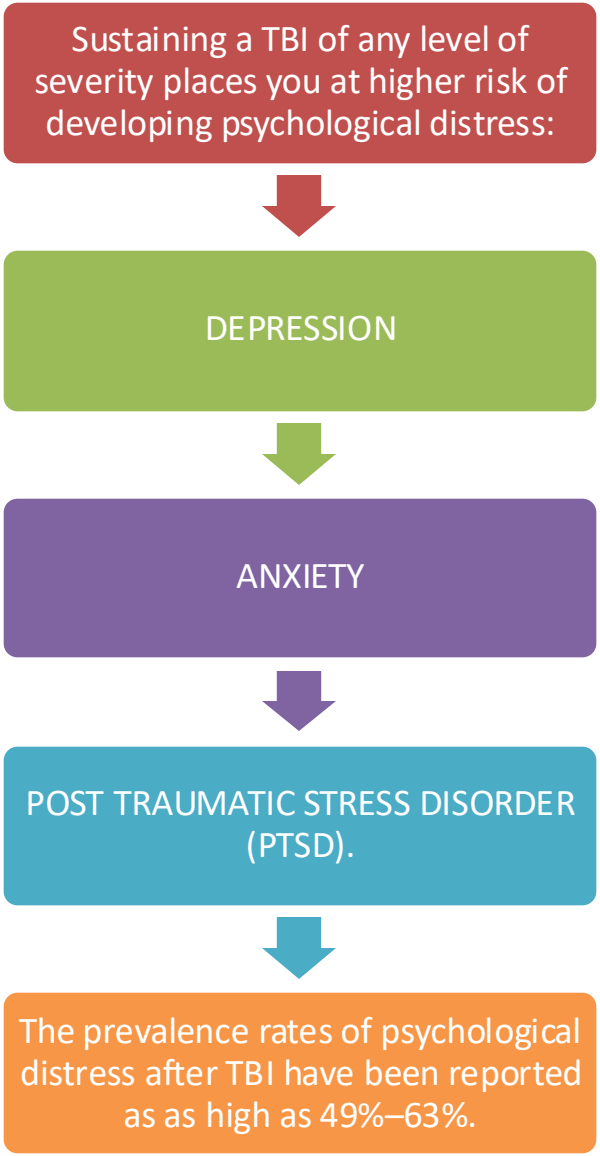

*Sources:*

Track study: Recovery After Mild Traumatic Brain Injury in Patients Presenting to US Level I Trauma Centers, JAMA Neurol. 2019 Sep 1; 76 (9): 1049-1059.

Mittenberg W, Canyock EM, Condit D, Patton C. Treatment of post-concussion syndrome following mild head injury. J Clin Exp Neuropsychol. 2001 Dec;23(6):829-36. doi: 10.1076/jcen.23.6.829.1022. PMID: 11910547.

# TBI PATIENTS ARE AT HIGHER RISK OF PSYCOLOGICAL DISTRESS

Cole, W. R., & Bailie, J. M. (2016). Neurocognitive and psychiatric symptoms following mild traumatic brain injury. In D. Laskowitz & G. Grant (Eds.), Translational research in traumatic brain injury. Taylor & Francis Group (Chapter 19) https://www.ncbi.nlm.nih.gov/books/NBK326715/



# The Legal Challenges of 'Invisible' Injuries

**Evidentiary hurdles in North Carolina courts:**

- **Normal appearance of the injured individual**
- **Negative findings on standard imaging studies**
- **Fluctuating symptom presentation**

**Defense strategies often focus on:**

- **Minimal property damage in low-impact collisions**
- **Normal CT/MRI findings**
- **Pre-existing conditions and alternative explanations.**

# Mild Brain Injury and the Limitations of Traditional Imaging

- Mild Traumatic Brain Injuries (mTBIs) often do not show up on traditional imaging such as CT scans and MRIs.
- These standard scans are designed to detect structural damage like bleeding or fractures, but they cannot effectively capture microscopic axonal injury, white matter damage, or neurotransmitter dysfunction.
- Diffusion Tensor Imaging (DTI), Functional MRI (fMRI), and PET scans, are capable of detecting these subtle but significant injuries but insurance companies frequently deny coverage.
- This creates a barrier for TBI patients who need objective evidence of their injury for medical care, legal claims, and disability benefits.

# Case Study: Doe v. Trucking Company (2024)

- 57-year-old former nurse, co-owned contracting business with husband.
- Motor vehicle collision: June 22, 2019 on Interstate 77.
- Rear-ended by truck, pushed into vehicle ahead.
- Normal CT scan, no documented loss of consciousness.
- Settlement outcome: $1.1 million after filing lawsuit.

# JANE DOE'S KEY SYMPTOMS THREE MONTHS POST ACCIDENT

- Persistent headaches (tension, migraine-type, pressure behind eyes)
- Significant cognitive deficits (attention, focus, short-term memory loss)
- Balance issues and visual processing problems
- Photosensitivity and sound sensitivity
- Neck/shoulder pain and muscle spasms
- Fatigue and mental fogginess
- Depression and anxiety

# Jane Doe - Provider Treatment Timeline

**EMS to ER** 6/22/2019 (Initial accident response)

**Primary Care Provider (PCP)** 6/26/2019 - 5/19/2021 (prescription refills through 2022)

**Physical Therapy** 7/16/2019 - 10/23/2019

**Vision Therapy All Ages Vision Care (Dr. Beasley Neuro-Optometrist):**
11/07/2019 - 11/17/2022 *68+ documented vision therapy sessions over nearly 3 years*

**Neurologist (Dr. Peterson Giallanza):** 7/26/2021 - 10/19/2022

**Psychological/Neurological Care/Neuropsychological Services**
**Carolina Neuro Services/The Head Injury Center (Dr. Jeffrey Ewert):**
6/10/2020 - 2/22/2023

- *Initial evaluation: 7/23/2020*
- *Re-evaluations: 9/23/2021 and 2/22/2023*
- *Regular group therapy sessions: 10/07/2021 - 12/12/2022*

**Neuromuscular Massage** 9/29/2021 – 2/02/2023

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# LITIGATION TIMELINE

- Date of Accident June 22, 2019
- Pre-suit Negotiations fail in March 2022
- Complaint filed on April 21, 2022
- Mediation on February 13, 2023 was unsuccessful
- Depositions of Plaintiff and family members taken February 27, 2023
- Trial Deposition taken of Dr. Beasley on March 6, 2023
- Case Settled on March 15, 2023 for $1.1M just prior to Trial Date of April 3, 2023

# North Carolina Legal Framework: Causation Requirements

**Plaintiff has the burden of proof and must establish that the defendant was negligent in causing the accident.**

**The accident caused a Traumatic Brain Injury necessitating medical treatment of Plaintiff.**

**The defendant's negligent actions were a proximate cause of plaintiff's TBI injury.**

# What were the challenges for Proving Jane Doe's TBI Injury?

- Minor property damage
- Alert at the scene
- Glasgow Coma score of 15
- Did not hit her head
- No loss of consciousness
- "Recalls accident" per ER notes
- Physical appearance normal
- CT Brain Scan Normal
- Her PCP believed mild concussions resolve with time and did not endorse Jane's disability
- Video surveillance of Jane walking an energetic dog

# Other Challenges: *Emergence of unrelated medical problems*

- During her treatment, Jane was diagnosed with breast cancer (August 2020)
- She underwent chemotherapy, radiation, and surgery while continuing vision therapy
- She also experienced COVID-19 and shingles during the treatment period
- These factors slowed but did not reverse her progress

# Rebuttals to Defense Arguments

- Family's testimony about Plaintiff's forgetfulness and memory issues
- Property Damage Estimate of Car $18,627.20 illustrated moderate collision that required extensive cosmetic and component parts replacement
- Plaintiff's Treating Neurologist endorsed her TBI injury and disability from working
- Neuro-Optometric Assessment by Expert Witness Dr. Genia Beasley showed visual deficits corresponding to brain and optic nerve injury
- Neuropsychological Evaluations by Expert Witness Dr. Jeffrey Ewert documented cognitive impairments corresponding to TBI

# JURY INSTRUCTION REGARDING EXPERT WITNESS TESTIMONY

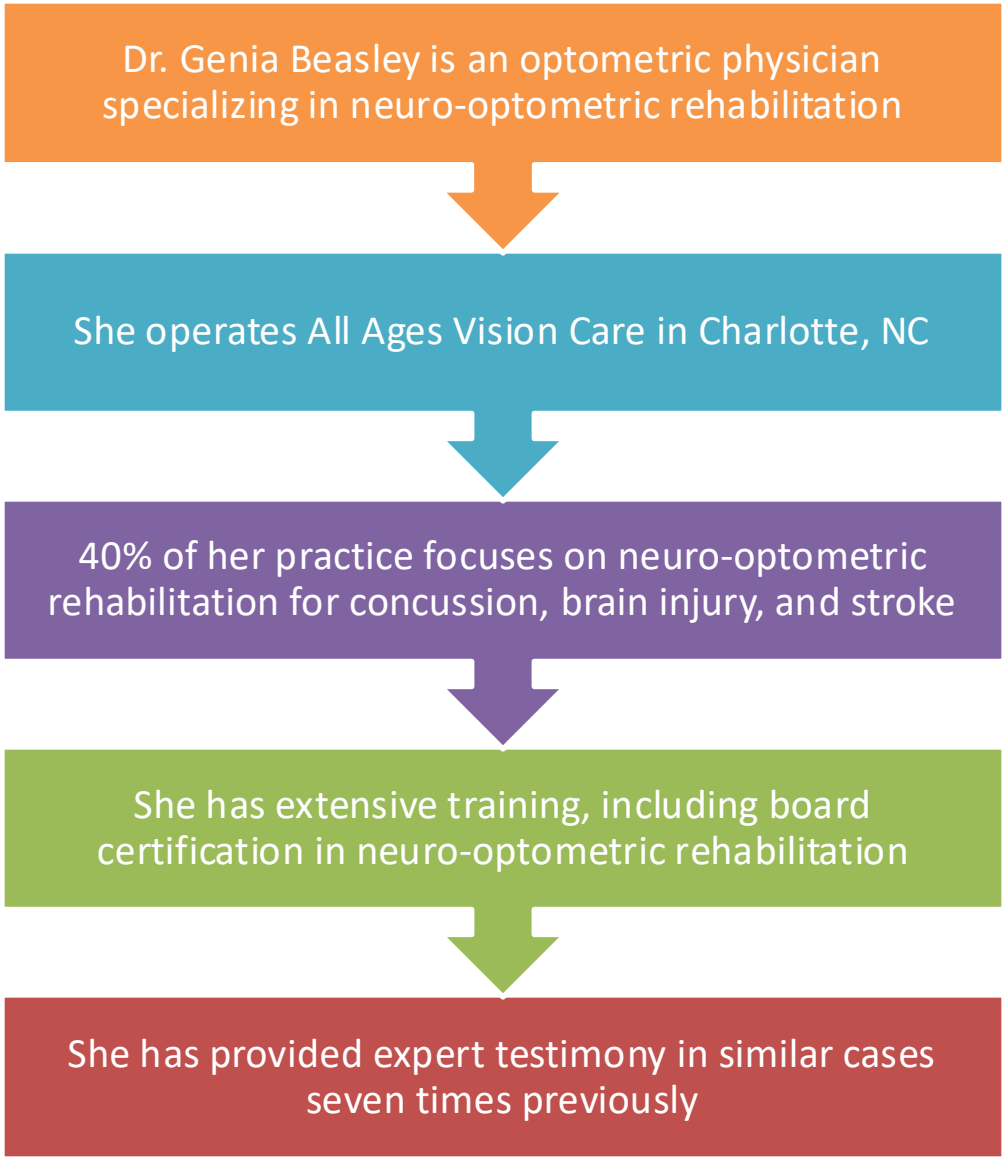
101.25 TESTIMONY OF EXPERT WITNESS.

In this case you have heard evidence from [a witness] [witnesses] who [has] [have] testified as (an) expert witness(es). An expert witness is permitted to testify in the form of an opinion in a field where he purports to have specialized skill or knowledge.

As I have instructed you, you are the sole judges of the credibility of each witness and the weight to be given to the testimony of each witness. In making this determination as to the testimony of an expert witness, you should consider, in addition to the other tests of credibility and weight about which I have already instructed you, the evidence with respect to the witness's training, qualifications, and experience or the lack thereof; the reasons, if any, given for the opinion; whether or not the opinion is supported by facts that you find from the evidence; whether or not the opinion is reasonable; and whether or not it is consistent with the other believable evidence in the case.

You should consider the opinion of an expert witness, but you are not bound by it. In other words, you are not required to accept an expert witness's opinion to the exclusion of the facts and circumstances disclosed by other testimony.

# Dr. Genia Beasley Neuro-Optometric Rehabilitation Expert Witness



# Jane Doe's Initial Visit and Presentation with Dr. Beasley (November 2019)

Referred by her PCP four months after June 2019 car accident.

Diagnoses: post-concussion syndrome, post-concussion headache, anxiety, eye focusing problems

No loss of consciousness during accident

**Key symptoms**: headaches, light sensitivity, memory issues, fatigue, balance problems, reading difficulties, brain "fog"

# Neuro-Optometric Assessment

- Specialized evaluation of visual processing and function.
- Detects deficits in vision
- Binocular vision
- Visual processing speed
- Convergence
- Peripheral vision field
- Approximately 70% of all sensory input fibers to the brain begin in the eye.

# Jane Doe's Diagnostic Vision Testing and Initial Findings

Comprehensive vision testing revealed:

- Convergence insufficiency (inability to focus eyes properly)
- Binocular fusion dysfunction (eyes not working together)
- Severe peripheral vision deficit (5-8° vs. normal 30-45°)
- Eye teaming correlation only 35% (normal is 99%)
- Balance issues when walking and standing

## Jane Doe's Neuro-Optometric Rehabilitation Program (2019-2021)

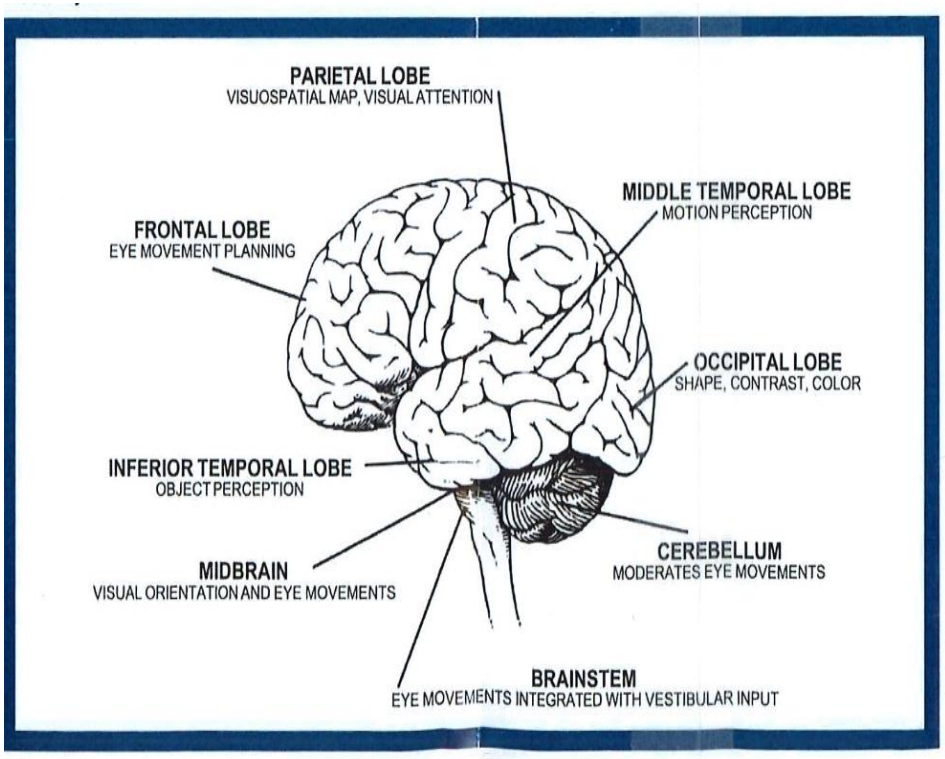
45 in-office vision therapy sessions over two years:

- Specialized glasses with prism and blue tint
- Daily light therapy to expand peripheral vision
- Vision therapy exercises for eye coordination, tracking, focusing, and depth perception
- Home exercise program with computer-based vision rehabilitation exercises 5-6 x week.

# Dr. Beasley's Expert Opinions

- Jane's visual symptoms were directly related to her concussion from the car accident
- Jane's persistent symptoms are likely permanent, as most improvement occurs within 6-8 months of therapy (Jane had extensive therapy over 2 years)
- Dr. Beasley believes Jane could potentially benefit from additional therapy but notes Jane was satisfied with her current level of improvement (approximately 80% of normal function)
- The persistent symptoms would impact Jane's ability to work in environments with fluorescent lighting, computer screens, crowds, need for rapid processing of information

# Neuro-Optometric Rehabilitation for TBI Patients: The Brain and Vision: A Vital Connection




- Approximately 70% of all sensory input fibers to the brain begin in the eye
- More than twice the neural input of all other senses combined
- Visual system represented in every major lobe of the brain
- Also involves midbrain and brainstem
- Neurological compromise from a TBI frequently affects visual function

# Jane Doe's Persistent Visual Symptoms

- Light sensitivity, wears tinted glasses
- Discomfort with fast-moving objects
- Limited reading stamina (10-20 minutes before fatigue)
- Difficulty driving at night

# Dr. Jeffrey Ewert Neuro-psychologist Expert Witness

Dr. Jeffrey Ewert is a a board-certified clinical neuropsychologist specializing in the evaluation and treatment of brain injuries.

He operates Carolina Neuroservices – The Head Injury Center

Commonly treated disorders include mild to traumatic brain injuries (concussion), moderate to severe brain injuries, persistent post-concussion syndromes, and mild cognitive impairments.

Dr. Ewert has testified many times in civil cases as an expert in neuropsychology and traumatic brain injury.

He is also affiliated with the NFL and the FAA and provides expertise and neuropsychological testing for NFL players and FAA pilots.

# Neuropsychological Evaluation for TBI from Motor Vehicle Accidents

| | |
|---|---|
| Purpose | Purpose of Evaluation to identify cognitive impairment |
| Assess | Assess cognitive, behavioral, and emotional changes following TBI from motor vehicle accidents |
| Establish | Establish baseline functioning and track recovery over time |
| Document | Document functional impairments often invisible on standard neuroimaging |
| Confirm and delineate | Diagnosis: Confirm and delineate the extent of brain injury |
| Planning | Treatment Planning: Guide interventions and rehabilitation efforts |
| Provide | Legal Documentation: Provide objective evidence of cognitive impairment |

# Components of the Neuropsychological Evaluation

**Cognitive Tests:** Memory, attention, processing speed, executive functions

**Behavioral and Emotional Assessment:** Mood, personality, emotional regulation

**Clinical Interview:** Accident details, symptom progression, daily functioning

**Typical Testing Domains:**

- **Attention & Processing Speed**
- **Memory (Verbal & Visual)**
- **Executive Functioning**
- **Language**
- **Visuospatial Abilities**
- **Motor Skills**
- **Emotional Functioning**

# Dr. Ewert's 1st Neuropsychological Evaluation of Jane Doe

First Evaluation (July 23, 2020)

Diagnosis: Major Neurocognitive Disorder due to traumatic brain injury

Key Findings:

- Severe cognitive impairment in attention, working memory, and visual processing
- Visual memory in borderline impaired range
- Significant depression and social withdrawal

Conclusion: Patient considered disabled and not capable of returning to work

# Dr. Ewert's 2nd Neuropsychological Evaluation of Jane Doe

Second Evaluation (September 23, 2021)

Diagnosis: Minor Neurocognitive Disorder (downgraded from Major)

Key Findings:

- Significant improvement in verbal and visual memory
- Improved attention and concentration abilities
- Better visual reasoning skills
- Decline in motor skills and processing speed

Conclusion: Despite improvements, still not capable of returning to former nursing career.

# Dr. Ewert's 3rd Neuropsychological Evaluation of Jane Doe

Third Evaluation (February 22, 2023)

Diagnosis: Major Neurocognitive Disorder (returned to initial diagnosis)

Key Findings:

- Improved verbal fluency and listening performance
- Ongoing severe sustained attention impairment
- Significant frontal lobe dysfunction
- Severe depression and anxiety persisting

Conclusion: Cognitive deficits permanent; patient has plateaued in recovery and should be considered permanently disabled

# Practical Strategies for TBI Litigation

- Detailed client intake questionnaires
- Early documentation of symptoms from family members, friends, or co-workers
- Identification and interview of witnesses who can testify to changes in functioning.
- Comprehensive analysis of medical records
- Are there appropriate testing and evaluation of the symptoms?
- Consult with the treating physicians

# Keys to Successful TBI Litigation

- Understand the science of a traumatic brain injury.
- Build a strong evidentiary foundation.
- Employ specialized evaluations.
- Select expert witnesses who can explain TBI concepts using objective metrics.
- Consult with the treating physicians.
- Hire life care planner and economist to quantify economic damages

# Thank You & Contact Information

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