

Summer 2023

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John's Story: How Positivity and a Strong Support System Helped Him Succeed

John, now 21, came to NeuroRestorative in November 2022 after sustaining a diffuse axonal brain injury. John suffered many physical injuries: neck injuries, broken ribs, two separate brain bleeds, and he was in a coma for five days. After regaining consciousness, John was nonresponsive for six more days and only began remembering the accident after two months of intensive therapy. John's family knew he would survive after one week, but they didn't know his capabilities. He began his rehabilitation journey at the hospital.



Several months later, John's mother, Nancy, started researching rehabilitation programs that would best suit John's recovery journey. Nicole Button, Marketing Clinical Liaison for NeuroRestorative, contacted Nancy and visited him at the hospital. At that time, John was starting to read again, laughing, and was able to do some physical activity, but was experiencing significant aphasia.

Nancy stayed in touch with our team members and soon got a call that there was space available for John at our NeuroRestorative program in Cedar Rapids, IA. The family came to tour the program immediately, and right after the tour, John said out loud, "I love it here!" Soon after, John moved into the home.

John participated in daily therapy, including occupational therapy, speech therapy, physical therapy, cognitive therapy, recreational therapy, real-world-skill development and more. He started playing the piano, taking trips to the local YMCA, doing yoga, and practicing daily life skills like food shopping, paying bills, medication management, etc. In addition, John's four best friends continued to visit John often at the program and played video games together – something they had always done together.

"We often have the opportunity to serve people that face significant barriers in their rehabilitation journeys," said Amber Luck, BA, CBIS-T, Program Director. "It is not common, however, that we serve someone with a support system like John's. His kind nature, resilience, and good sense of humor have likely played a big role in living, not just surviving— life with an acquired brain injury. Over these last months, we've seen that those attributes are shared among his family, too. It has been a gift to us to be able to support John and to be able to provide a sense of respite to his family, who have traveled this road to recovery right alongside him."

"We are incredibly grateful to NeuroRestorative. They were honest and open with us throughout this whole process. NeuroRestorative has given us so many blessings," said Nancy. Similarly, here at NeuroRestorative, we are blessed to be a part of people like John's journey to becoming more independent.

Make a Referral

Let our caring professionals help you find the right services and resources for your patient or loved one.



Call

800-743-6802

Message from the President

Friends and Colleagues,

I hope you all are enjoying the warmer weather and outdoor activities that the summer months bring us. I always look forward to learning about the community activities that the people who we support participate in across the country. Whether it's fishing or festivals, hiking or volunteering, it's truly wonderful to get to support people as they take part in community life.

I am also excited to share some news from our organization over the last few months:

In our constant pursuit of improving access to care, NeuroRestorative has become an In-Network-Provider with several different insurances. Additionally, we have entered into an innovative Value Based Care Agreement in which focus is placed on both the quality and outcomes of services we provide.

Our NeuroRestorative family continues to grow and serve more people every day. We know that our accomplishment of this has been a result of a continual focus on quality outcomes and removing barriers to access care for children, adults and Veterans, whether they participate in programming in their homes, in specialized clinics or in the residential environments we operate.

This newsletter edition focuses on our brain injury supports and services. We review our outcomes data, share some individuals' success stories, and celebrate how our team members go above and beyond to care for their colleagues, those we serve, and their families. I hope these stories inspire you as much as they do our NeuroRestorative teams nationwide.

Sincerely,



Bill Duffy, President
NeuroRestorative



Friends and Colleagues,

I am continually delighted to hear about the many stories of people we serve at NeuroRestorative. In this quarter's newsletter, you will read stories about the recovery journeys of many people who have suffered a brain injury. We are proud to be able to provide the tools they need to become more independent, participate in their communities, and get back to doing what they love. Please consider sharing these stories of people who have recovered well after a brain injury – with focused specialized treatment, dedication, and hard work.

At NeuroRestorative, we believe recovery is a process, and we have the tools to help people reach their fullest potential. I am excited to share that we will be hosting our annual NeuroRestorative Medical Director's Conference on Thursday, September 28, where we bring together more than 50 Medical Directors nationwide to hear and discuss medical practice and care in our growing array of supports and services.

Please enjoy this quarter's newsletter!

Best,
Mel Glenn, MD
National Medical Director, NeuroRestorative

NeuroRestorative's Brain Injury Supports and Services

For over 40 years, NeuroRestorative has developed an effective and flexible continuum of care and support services that guide individuals through their recovery following a brain injury. Our neurorehabilitation and neurobehavioral programs use evidence-informed best practices to help individuals achieve their potential and reach their goals, whether returning home, to work, or to school. Each individual has an individualized service plan that is developed by our interdisciplinary team of professionals with input from the individual and their personal support network. We help people regain abilities, adjust to changes following neurological trauma, and participate in their communities.



Every therapeutic activity in every individual's neurorehabilitation program provides the opportunity to develop skills that will have real-world application in their lives when they return to their community. Neurorehabilitation therapies are provided in a variety of settings, including our community-based residential or inpatient programs and throughout our in-home, host home, outpatient and day treatment programs.

Helping Individuals Reach Their Goals. We provide:

- Physical Therapy
- Occupational Therapy
- Speech Therapy
- Cognitive Therapy
- Recreational Therapy
- Life Skills Training
- Community Integration
- Substance Use Recovery
- Case Management
- Behavior Analysis
- Counseling
- Money Management
- Vocational Activities/Employment
- Attention and Concentration
- Anxiety, Depression, Irritability, Instability, Aggression and Fatigue

In addition, Our NeuroRecovery program, focuses on providing a sober, safe and healthy lifestyle, fostering autonomy, personal growth and development, and maximizing independence in daily living. Because we understand the relationships between brain injury and substance use, individuals receive NeuroRecovery services while simultaneously receiving treatment for their substance abuse. Individuals can receive services in residential settings or in outpatient and day treatment settings. We are licensed in each state in which we operate and hold CARF and/ or Join Commission accreditation, together with many local and regional affiliations.

Christina's Recovery Story and How She Found a New Passion Following Her Injury

Christina Medsker, 21, sustained a closed diffuse axonal brain injury following a car accident in December of 2021. This injury is characterized by a rapid forward or backward movement similar to shaking of the brain that causes bruising and tearing of brain tissue and blood vessels. After being released from the hospital, Christina attended several rehabilitation facilities before being referred to our NeuroRestorative Fresno, CA program.

When Christina first started the program, she was primarily focused on memory and getting movement back in the left side of her body. Her therapy team created an individualized care plan focusing on cognitive, physical, recreational, and speech therapy.



"During my initial assessment with Christina, she did not demonstrate any movement or follow any commands," said Stacy Chaffin, PT. "For our first week of treatment, I focused on improving her alertness and tolerance for upright positioning by using a tilt-in-space wheelchair for supported sitting and a tilt table for supported standing. Over the weeks, as Christina improved, she often concluded our time together with, "Thank you – I appreciate you." It was an honor to work alongside Christina and her family during her rehabilitation."

Christina is now back home and doing well. She has big goals and is taking courses to become a dental assistant, a passion she found following her brain injury. "The best advice I would give to someone going through something similar is not to give up," said Christina. "The road to recovery will be hard, but there is still hope." Christina recently stopped by the program to visit, and all of the therapists were delighted to see the recovery she has continued to make. We are proud to be a part of Christina's story and others like her to become more independent, find a passion, and get back home and into their communities.

Our Outcomes: Specialized Treatment for Survivors of TBI

Each year, approximately 2.8 million people in the US sustain a traumatic brain injury (TBI). A TBI disrupts performance in multiple areas, including mobility, communication, cognition (memory and information processing), and emotional/behavioral functioning. Our treatment programs address each area of potential impairment with highly skilled treatment teams that include supports and services provided by: Physicians, nurses, physical therapists, occupational therapists, speech pathologists, psychologists, counselors, life skill trainers and more. Following post-hospital rehabilitation treatment, over 80% achieve a meaningful reduction in disability, and most can return home and resume productive activities. The charts and graphs below present the demographics, chronicity, and outcomes for over 2000 persons who sustained a TBI and completed our neurorehabilitation programs.

Demographics	TBI Persons Served
Sample Size	2107
Average Length of Stay	175 days
Average Age	42.9 years
Male/Female	80% male, 20% female
Chronicity (Time from onset of injury to admission)	TBI Persons Served
Injury Length (0-12 months) [ALOS 137 days]	61%
Injury Length (12-24 months) [ALOS 227 days]	9%
Injury Length (24-48 months) [ALOS 236 days]	5%
Injury Length (48+ months) [ALOS 382 days]	11%
Injury Length (unknown) [ALOS 142 days]	14%

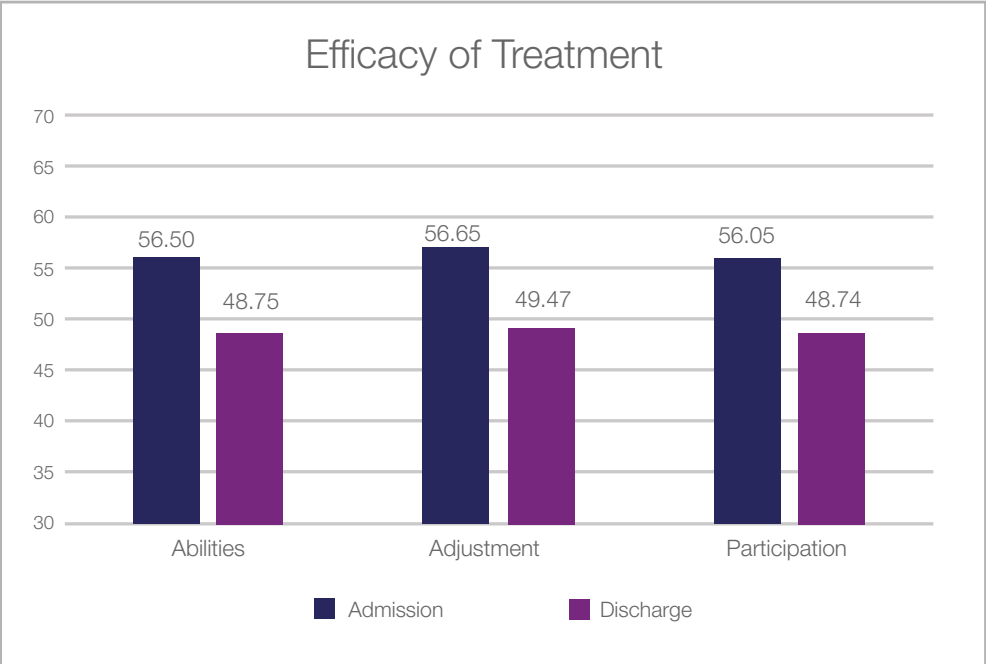
TBI affects people of all ages. Age groups that have the highest rate of TBI include: Children aged 0-4, adolescents aged 15-19, and adults aged 65 and older. Males are more likely to experience TBI than females.

Chronicity Impact:
Outcomes are significantly influenced by chronicity (Lewis, Horn & Russell, 2017). As such, when persons are able to access neurological rehabilitation care sooner, the individual has the highest chance of achieving successful outcome to rejoin their community and resume a productive lifestyle. If a person is admitted soon after injury, remediation strategies can be the focus of care. Lengthier time since injury slows the process of improvement and emphasizes greater use of compensatory strategy development with continuous skills reinforcement. For those admitted within one-year of injury, 58% were discharged home with a mild-moderate level of disability.

Residential vs. Non-Residential Care:
The focus of residential services is to help progress a person from 24-hour assistive care to no longer needing constant supervision or assistance with daily living skills. The application of skills with community living becomes the focus of non-residential services.

Outcomes are measured using the Mayo Portland Adaptability Inventory – Version 4 (Malec & Lezak, 2008). Lower scores indicate less disability. See the chart below for interpretation reference.

The results provided in this graph demonstrate a significant and a meaningful change from admission to discharge with post-hospital care. This level of change is sufficient to reduce disability, leading to successful community discharge and societal participation.



Change Scores and Effect Size

MPAI-4 Indices	Admission Score Average	Discharge Score Average	Difference Score	Effect Size
Ability	56.50	48.75	7.75	0.97 (Large)
Adjustment	56.75	49.47	7.28	0.83 (Large)
Participation	56.05	48.74	7.31	0.96 (Large)

The table above shows the change in score from admission to discharge. Change scores greater than 5 represent a clinically significant reduction in disability. Effect size measures the magnitude of change. An effect size of greater than 0.75 is considered to be a large and positive effect (e.g., reduction in disability). The vast majority of our TBI program graduates experienced this meaningful improvement in their functioning.

Mayo Portland Interpretation Guide

T-Score	Impairment	Functional Impact
60+	Severe	May interfere with activities / function >75% of the time
55	Moderate - Severe	May interfere with activities / function approximately 75% of the time
50	Moderate	May interfere with activities / function 25-75% of the time
45	Mild – Moderate	May interfere with activities / function 25-50% of the time
40	Mild	May interfere with activities / function approximately 25% of the time
35	Very Mild	May interfere with activities / function <25% of the time

Proven Success: NeuroRestorative's Tradition of Building on Successful Outcomes

What is known today as NeuroRestorative originally began in 1977 in Carbondale, IL, as the first-ever after-hospital specialized community-based residential brain injury rehabilitation program. Now providing quality programs supporting adults, children, and Veterans across 28 states, NeuroRestorative has grown to serve the unique needs of each person recovering from brain injury or Neurotrauma.

Our quality outcomes have led to our programs' growth in an ever-increasing number of locations, each providing an environment of care that maximizes opportunities for abilities and skill development, adjustment to disability, and community participation. Families, funders, and all stakeholders care deeply about the features and benefits that NeuroRestorative programs provide. Still, it is the measurable difference we make in people's recovery – the gains they achieve from the time of admission to the time of discharge, that cement the value of our programs.

NeuroRestorative is proud to be an industry leader in outcomes collection, organization, and reporting, ensuring that the research, advocacy, and education we provide are rooted in the science of our measurement systems. This is critical because each person's outcome is our focus for each individual we serve. Call us today to learn more about how we can provide the tools to help you or your loved one.



Keeping Up With Darlene: An Attitude that Keeps Her Moving Towards Her Goals

Darlene suffered a brain injury after being hit by a truck while crossing the street in 2014. After being in a coma for a week, Darlene left the hospital and participated in rehabilitation, but discharged with plans to continue to make gains. A year and a half after her accident, Darlene was referred to our NeuroRestorative program in Warren, MI, to focus on therapies that improve her abilities in memory, movement, life skills, and the regaining of confidence.

When Darlene first came to our NeuroRestorative Warren, MI, program, she went through our neurorehabilitation program, focusing on occupational, physical, cognitive therapy, and counseling. "NeuroRestorative provided me with the confidence and tools to cope with my new normal," said Darlene. The team helped Darlene with her physical, mental, and life skill goals including, navigating a computer, controlling her behavior/thoughts, and even finding joy in hobbies like woodworking.



"When I started working with Darlene, I noticed that she was always willing to learn new things. Once Darlene learns a new skill, she always shows interest and will perform the task as much as she can," said Jasmine, one of Darlene's Direct Support Program Coordinator. "What helped Darlene the most was keeping busy and learning new things throughout the day, physically and mentally."

Although she didn't necessarily need PT and OT services, Darlene enjoys participating in the fitness and yoga programs. She is looking forward to the future and plans to take college classes and get a community job. When asked what advice she would give someone going through something similar, Darlene replied, "Take full advantage of all of the resources available at NeuroRestorative. They helped me gain so much confidence. You will make friends at the program who are going through similar challenges as you, and the staff are there to help and listen to your concerns."

The Expert Corner

Clinical Outcomes: Why and How We Show Our Work

Victoria Harding, PhD, CCC/SLP, MBA, Vice President of Development



Individuals recovering from brain injury, their families, and their funders are guided by many support professionals, programs, and services which can improve physical and cognitive abilities, help adjust to disability, and actively participate in their community. The features and benefits of neurorehabilitation programs are important, but there are additional considerations. Environments of care, caring and skilled staff, compassionate clinicians, peer support, safety, and effective communication are all additional details of a quality program. But truly, the goal of a neurorehabilitation program is to support each person served to achieve a measurable outcome, and demonstrating significant improvement in functioning by the time of discharge from the program.

Approximately ten years ago, NeuroRestorative changed outcomes' collection, organization, and reporting structure. Resources were invested into establishing a team dedicated to a national system-wide outcomes program. The goal was to provide a meaningful understanding of the necessary ingredients about the persons and programs that influence positive gains and contributes to each person's "life work" following a brain injury. Our team researched many measures but focused on the Mayo-Portland Adaptability Inventory – 4 (MPAI-4) and the Supervision Rating Scale. These instruments provide a system-wide assessment of disability and supervision needs as the individual progresses toward independence after brain injury. Measuring progress and outcomes also assists in meeting our obligations to follow an evidence model of care for our funders. Examples of improvements include:

- Monitoring each individual's gains and prevent regressions using real data
- Transparency of clinical results
- Forecasting an individual's recovery
- Comparing programs across the country to monitor quality
- Measuring the durability of our outcomes
- Using our data to answer important research questions, advocate and educate



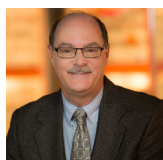
NEURO INSTITUTE

Continuing Education for Rehabilitation Professionals

Neuro Institute offers monthly, one hour online CEU opportunities spanning a variety of topics related to rehabilitation services for individuals with brain, spinal cord and medically complex injuries and other challenges. Below is upcoming events. **Past presentations are available to view for credit by visiting: neurorestorative.com/institute.** CE credit for Case Managers (CCMC), Social Workers (NASW), and Florida RN which provides National Nursing Continuing Education Courses Certification in every state with the exceptions of New Hampshire, Ohio, and Georgia. All other attendees will receive a general certificate of attendance. Scan the QR code to register for upcoming events.

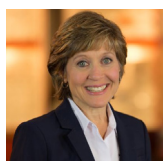


FRIDAY, AUGUST 25, 2023 12-1 PM (EST)



Topic: Adjunct Therapy for TBI, Neck Pain, Gait/Balance Disturbances and Falls in the Elderly: Microprism Lenses and Noise Cancellation

Speakers: Mark Rosner, MD, FACEP, FAAO and Debby Feinberg, OD, FAAO



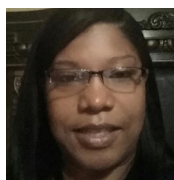
Learning Objectives

- Participants will become familiar with symptoms of binocular vision dysfunction and hyperacusis
- Participants will learn two methods to screen for BVD
- Participants will become familiar with conditions that those with BVD are frequently misdiagnosed with

NeuroRestorative Heroes

NeuroRestorative Heroes celebrates team members whose actions make them a hero to those we serve or their colleagues. This quarter, we celebrate employees for their dedication to the individuals we serve. Do you know a NeuroRestorative employee whose actions make them a hero to those they serve or to their fellow colleagues? **Nominate a Hero today by visiting neurorestorative.com/heroes-nomination.**

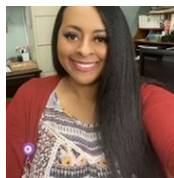
FY23 Q3 Heroes



Tracy Anderson
Rehabilitation Specialist
NeuroRestorative Texas



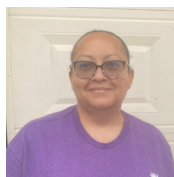
Katie Eggl
Rehabilitation Services Manager
NeuroRestorative North Dakota



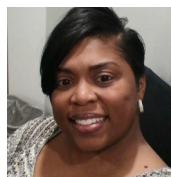
Melody Bible
Case Management
NeuroRestorative Nevada



Cecilia Hernandez
Case Manager
NeuroRestorative Texas



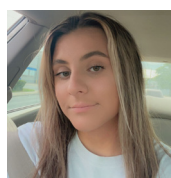
La Sandra Bruner, CNA
Certified Nursing Assistant
NeuroRestorative California



Tyrah McDuffy
Life Skills Trainer
NeuroRestorative Michigan



Sherry Dougherty
Day Program Supervisor
NeuroRestorative Illinois



Olivia Morris
Direct Support Lead
NeuroRestorative Virginia

Employee Highlight: Scott Kruczek Honored by The Crisis Prevention Institute®

For over four decades, NeuroRestorative has been dedicated to ensuring that our care team members are well trained and provided with the tools needed to best support people recovering from brain injury. Our investment in certification programs such as the Crisis Prevention Institute's® (CPI) training, allows NeuroRestorative to provide evidence-based de-escalation and crisis prevention approaches and techniques that focus our staff on the care, welfare, and safety of the people we support. NeuroRestorative's robust training program for all staff is a big contributor to our quality outcomes.



Recently, Scott Kruczek, Director of Training and Development with NeuroRestorative, was awarded Meritorious Instructor Status by CPI® at a ceremony in Indianapolis, IN. Less than 2% of Nonviolent Crisis Intervention Certified Instructors have achieved this distinction. Over the last 25 years, Scott has inspired thousands of students and employees in Crisis Management, providing specialized certifications to teach Dementia Capable Care and Autism Spectrum Disorder, Advanced Physical Skills, and Trauma Informed Care best practice techniques. As a Master Trainer, Scott also works to coach and help other trainers ensure that all staff are well-prepared and supported to serve program individuals. As Lu Sutherland, Vice President of Quality Improvement, states: "Scott can engage and teach people in a manner that leaves them craving even more guidance from him. He is always willing to jump in anywhere and do whatever is needed to provide those we serve and staff with all they deserve."

NeuroRestorative congratulates Scott on this well-deserved recognition of his commitment to advancing training for his NeuroRestorative colleagues.

Contact us: 800-743-6802 | neurorestorative.com



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