



FEATURED

**Giving  
Hope to  
Others with  
Chronic Pain**

*page 4*





*Making the invisible visible since 1983*

Dear Readers,

Welcome to this special issue of *The Noggin*, dedicated to the power of hope for individuals with brain injury. In this edition, we explore how hope can be a guiding light, providing comfort, motivation, and a belief in a brighter future during the recovery process.

Dealing with a brain injury brings many challenges—physical, mental, and emotional. However, hope can be a source of strength and courage, helping you or someone you love to persevere along the way.

Moreover, hope fosters a sense of community and support. Connecting with others who have faced similar challenges can provide inspiration, understanding, and encouragement. Sharing stories of hope and resilience creates a network to remind you that you are not alone in your journey.

In this issue, we include reasons to have hope – from professionals to survivors and their families – so you can thrive.

I also urge you to show your continued support with a monthly donation of \$40 in honor of 40 years of our offering free programs and resources. You are the reason we can keep giving hope to survivors, their families, and caregivers.

Wishing you strength, resilience, and a future filled with hope...

Carrie Collins | CEO • Brain Injury Alliance of Arizona



**OUR MISSION**—To improve the quality of life for everyone impacted by brain injury by providing advocacy, education, information, support, and resources, while promoting brain injury prevention

**OUR VISION**—A world where all individuals impacted by brain injury thrive in their community



Your generous support is crucial for the Brain Injury Alliance of Arizona to continue providing brain injury survivors, their families, and caregivers with free programs and services. Please scan the QR code and donate today.

# Contents

BRAIN HEALTH INSIDER

**Giving Hope To Others With Chronic Pain**

*Page 4*

---

GOOD NEWS

**Out And About In The Community**

*Page 6*

---

HOPE THROUGH THE EYES OF A SURVIVOR

**Sven Olson: Still Inspiring Hope**

*Page 7*

---

BRAIN HEALTH

**The Secrets Of A Lifetime Of Brain Health**

*Page 9*

---

**Turning Battles With Brain Injury Into Hope**

*Page 12*

---

NEURO NEWS

**Latest Research From Around the World**

*Page 14*

---

# Giving Hope To Others With Chronic Pain

One typical summer afternoon in 2021, on U.S. 6 outside of Denver, Alexis Rae Lopez was riding in a car driven by her boyfriend. Suddenly, their tire got caught in a washed-out side of the road, catapulting his pickup truck into a ditch, rolling it onto its side. The side airbag was deployed and crashed into the side of her head.



When the paramedics arrived, she was extremely calm, assuring them that the only thing she felt was her right ear ringing where the airbag connected. They told her she likely had a concussion (her sixth) and that she was still in shock. Moreover, she would probably experience symptoms in 24-48 hours.

Alexis Rae went back to work as Business Manager for a roofing supply company, but still didn't feel anything after two days. When she hit the four-day mark, however, everything hit her all at once. "I was sitting at my desk and suddenly my vision was strained," she recalls. "I told a co-worker that something was seriously wrong and I had go right

then. It was my last day working there."

A local concussion clinic confirmed her concussion, albeit one without loss of consciousness, but not a TBI. For the next four months, she immersed herself in outpatient rehab, which included vestibular, vision and cognitive therapy.

As her short-term disability ended, she was unsure how to navigate long-term coverage and didn't have the tools to advocate for her needs. Overwhelmed by the necessary attention to detail her position required, she quit, and was fortunate to transition to a sales position at another company.

In 2022, she transferred to a sales position

---

## “I wanted to turn my survival guide into a recovery roadmap for others, so I started sharing my journey...”

in Phoenix; however, 14 months after the accident, her symptoms regressed. “These chronic migraines would flare up 10 to 18 times a month. I was sensitive to light and sound, living with nauseous, and got what I call ‘helium head.’ When these symptoms took over my life, I couldn’t work and struggled to communicate or know my needs.”

She resigned from her job, but never gave up hope. Eventually, she established a new care team in Arizona, got the appropriate medication, and joined a support group, She Shed, at the Brain Injury Alliance. “The first time I told my story, I couldn’t stop crying. It was a combination of joy, gratitude, and validation. I realized I wasn’t making things up and had to overcome my internal stigma of having to be a high achiever. I couldn’t believe why my body wasn’t responding to me, then came to accept that I simply needed to recover.”

Carrie Collins, CEO of the Brain Injury Alliance, says that Alexis Rae’s story reflects how many people resist acceptance of their injury. “Her denial was understandable as she was never diagnosed with TBI, even though her symptoms were debilitating. Once she owned it, she was able to make a career choice the suited the new her and found validation through She Shed. Knowing that you’re not alone with your brain injury is a tremendous step forward.”

With a new sense of optimism, she found a path forward by tapping into her entrepreneurial nature. “I wanted to turn my survival

guide into a recovery roadmap for others, so I started sharing my journey across social media platforms. I also developed a series of body work treatments to manage my symptoms and contribute to regaining my quality of life. These include massage, craniosacral, stretch, chiropractic, and NAD+ infusion therapy,”

Her website alexusrae.com offers two free guides to help relieve pain in very different arenas: *Three Useful Methods to Overcome Sudden Changes Caused by Chronic Illness* and *Say Goodbye to Computer-Related Discomfort*.

Alexis Rae also began a personal development podcast with her mother. *Evolving Truths* provides insights into using life experiences to evolve and grow as a person, regardless of age or disability.

She is also a keynote speaker at the Brain Injury Alliance’s 2023 Brain Health Leadership Conference: Back to Business. Subjects covered include how to support someone going back to work after a brain injury and how to advocate for yourself.

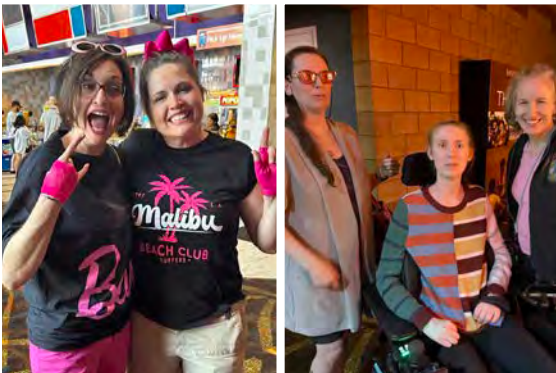
“My words of wisdom to others who are new to brain injury are: This is a tough pile of s\*!t that you didn’t ask for, but you can’t change it. So, what are you going to do today to make the most of what you have? Be patient, get connected to support, and just keep going. Growth and progress will happen.”



# Out And About In The Community



**Glendale Stand Up for Veterans a Success —** Brain Injury Alliance was proud to be part of the Glendale Stand Up for Success event. The one-day West Valley event was a resource gathering point for military family members and veterans in crisis.



**East Valley Movie Days a Hit —** Thanks to funds raised by our Run, Walk, and Roll event, several survivors and family members have been able to enjoy a day out at the movies. You can sign up for our e-blasts to keep up with all of the socialization and recreation activities funded by our annual Run, Walk, & Roll!



**Piller Child Development Receives Award —** Dr. Aimee Piller has a new award to display in her office! The Brain Injury Alliance nominated this outstanding Advisory Council member for recognition by the Pheonix Mayors Commission on Disability.



**Fire Museum Tour Hits the Mark —** Brain Injury Alliance clients were recently treated to a private tour of the Fire Museum. Special thanks to education curator, Mark Moorhead and team for the unforgettable experience.

They say hope springs eternal. Nobody knows that more than survivor Sven Olson, who defied death and came back from a brain injury to help others find their true purpose:

# My Story

BY SVEN OLSON

While living in the Republic of Panama during 1994-1996, I had a TBI (Traumatic Brain Injury) from a scuba diving accident. It was a medical anomaly because by any typical dive chart, nothing should have gone wrong. On a short, shallow dive, only 30 feet deep and only 20 minutes long, while conducting an unrequired but cautious “safety stop,” I was pushed up by a current from only 7 feet deep... and an air embolism formed in my brain. I immediately went to a hospital with severe pain in the back of my head but was told it was not a dive accident and to go home and take Motrin. Two days later, following a horrific decompression chamber experience, I was completely blind, a quadriplegic, and fell into a 7-day coma.



“Against all medical understanding and expectations, I was able to return to work in one year.”



---

**“I always tell other survivors to use the quiet, calm moments to listen to the universe and search inside. How CAN you contribute? Who CAN you help?”**

---

After waking, I was examined and determined to have the air embolism that went untreated for two days and caused significant brain damage. I was conscious, able to speak, think and hear, but remained completely blind and paralyzed from the neck down.

Against all medical understanding and expectations, I was able to return to work in one year. I had been told so often that there was little hope to ever see or walk again, that I always kept my expectations low, so every little advancement felt like a bonus.

When I gained sight in one eye, I celebrated. When I gained sight in my other eye a few weeks later, I celebrated. Although I have

massive memory loss from some of the brain damage, I am now fully ambulatory, cognitive enough to work and contribute to society.

Today, I frequently take any opportunity to use my story of resilience to inspire others. I always tell other survivors to use the quiet, calm moments to listen to the universe and search inside. How CAN you contribute? Who CAN you help? The technology today exists that will allow you to think, capture, write, and in most cases speak or have the computer speak for you. We can CHOOSE to be empowered by technology and serve others.





# The Secrets Of A Lifetime Of Brain Health



Keep hope thriving at every stage of life by adopting a brain-healthy diet and lifestyle. This can contribute to cognitive well-being and reduce the risk of age-related cognitive decline. Here are some general guidelines for different age ranges



## EARLY CHILDHOOD (0-5 YEARS):

During these years, brain development is at its peak, so it is crucial to provide proper nutrition to support maximum brain growth and function. Focus on:

- 1. Breastfeeding:** Breast milk contains essential nutrients and fatty acids.
- 2. Nutrient-rich foods:** Introduce a variety of fruits, vegetables, whole grains, lean proteins, and healthy fats to provide a wide range of nutrients.
- 3. Limit added sugars:** Avoid excessive consumption of sugary foods and beverages, as they can negatively impact brain health and cognitive development.



## CHILDHOOD (6-12 YEARS):

This is a critical period for learning. Encourage these healthy habits:

- 1. Balanced meals:** Ensure a balanced diet with plenty of fruits, vegetables, whole grains, lean proteins, and healthy fats. Provide regular meals and snacks to stabilize energy levels.
- 2. Omega-3 fatty acids:** Include sources like fatty fish (salmon, sardines), walnuts, chia seeds, and flaxseeds.
- 3. Limit processed foods:** Minimize added sugars, unhealthy fats, and artificial additives.



## ADOLESCENCE AND YOUNG ADULTHOOD (13–25 YEARS):

During this phase, your brain continues to develop, and cognitive abilities mature. Emphasize these:

- 1. Nutrient-dense meals:** Emphasize a diet rich in fruits, vegetables, whole grains, lean proteins, and healthy fats. Ensure sufficient intake of vitamins, minerals, and antioxidants.
- 2. Hydration:** Stay adequately hydrated, as even mild dehydration can affect your brain's performance.
- 3. Regular exercise:** Engage in physical activities regularly, as exercise promotes brain health, and enhances memory.
- 4. Limit alcohol and drug use:** Avoid excessive alcohol consumption and illicit drug use, as they can harm brain development.



## ADULTHOOD (26–64 YEARS):

Maintaining brain health becomes increasingly important as cognitive abilities may start to decline with age. However, these will help:

- 1. Balanced diet:** Consume a variety of fruits, vegetables, whole grains, lean proteins, and healthy fats. Include foods rich in antioxidants to combat oxidative stress.
- 2. Omega-3 fatty acids:** Continue to include sources like fatty fish, walnuts, chia seeds, and flaxseeds.
- 3. Manage stress:** Practice stress management techniques like meditation, yoga, or take up hobbies to reduce chronic stress.
- 4. Regular exercise:** Engage in aerobic exercises and strength training to promote blood flow to the brain.
- 5. Social engagement:** Maintain social connections and be involved in activities that stimulate your mind, such as puzzles, reading, or learning new skills.

*continued next page*



## OLDER ADULTS (65+ YEARS):

As aging progresses, it becomes crucial to pay special attention to brain health. You should incorporate the following into your routine:

- 1. Mediterranean-style diet:** Emphasize a plant-based diet, rich in fruits, vegetables, whole grains, legumes, fish, and healthy fats like olive oil.
- 2. Antioxidant-rich foods:** Include berries, dark chocolate, green leafy vegetables, and colorful fruits, as they contain antioxidants that protect against age-related cognitive decline.
- 3. Regular mental stimulation:** Challenge your brain with activities such as puzzles, reading, learning new languages, or playing musical instruments.
- 4. Stay socially active:** Maintain personal connections and participate in social activities.
- 5. Regular health check-ups:** Monitor and manage conditions like hypertension, diabetes, and high cholesterol.

Adopting a brain-healthy diet and lifestyle from an early age and throughout life can contribute to improved overall brain health. Remember, it's always advisable to consult with healthcare professionals or registered dietitians for personalized dietary recommendations based on specific health needs.



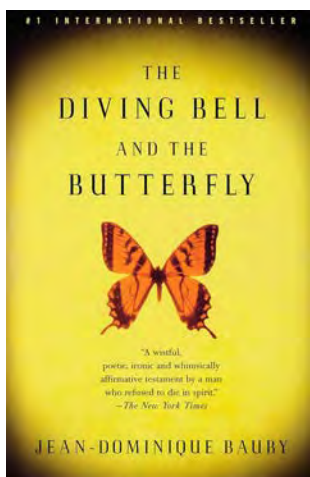
# Turning Battles With Brain Injury Into Hope

When it comes to turning lemons into lemonade, many remarkable individuals have provided hope to others with their personal stories battling brain injury. Following are a few of these notable figures who continue to inspire—

---



**Gabby Giffords** is a former American politician who survived a traumatic brain injury after being shot in 2011 during a public event in Tucson. The shooting left her with significant physical and cognitive challenges. Despite the difficulties she faces, Giffords showed incredible resilience and became an advocate for gun control and better access to healthcare for individuals with brain injuries.



**Jean-Dominique Bauby** was a French journalist and author who experienced a severe stroke that left him with locked-in syndrome, completely paralyzed except for his left eye. Despite his condition, he wrote an entire memoir, *The Diving Bell and the Butterfly*, by blinking his left eye to select letters. His story inspired many and shed light on the inner world of individuals with locked-in syndrome.



**Jill Bolte Taylor** is a neuroanatomist who suffered a stroke at the age of 37. Her experience provided her with a unique perspective on the brain and its capabilities. She went on to share her insights through a TED Talk and a book called "My Stroke of Insight," offering hope and understanding to others who have experienced brain injuries.



**Christopher Reeve** was an American actor (Superman) who became paralyzed from the neck down after a horse-riding accident. Reeve became a prominent advocate for spinal cord injury research and raised awareness about the potential for recovery and rehabilitation. Reeve's determination and positive outlook on life gave hope to many facing similar challenges, The Christopher and Dana Reeve Foundation continues to support individuals with spinal cord injuries and their families.



**Terry Fox** was a Canadian athlete who had his right leg amputated due to bone cancer. In 1980, he embarked on a cross-country run, known as the Marathon of Hope, to raise funds for cancer research. Despite developing brain metastases and being unable to complete his run, Fox's courage and determination touched the hearts of many and continues to inspire individuals facing various health challenges, including brain injuries.



**Briana Scurry**, a legendary goalkeeper for the U.S. Women's National Soccer Team, experienced a life-altering TBI during a match. Understanding the challenges first-hand, she became an inspiration on the importance of TBI awareness, advocacy, and the power of the human spirit. She has since been honored by the Smithsonian National Museum of African American History and Culture.





## NEW HOPE FOR ALZHEIMER'S PATIENTS

New research suggests that a possible new drug for Alzheimer's disease can help reduce swelling in the brain and protect brain cells, leading to better memory and thinking abilities in tests conducted on animals. This drug targets the immune cells in the brain that cause harmful inflammation, which is linked to the progression of Alzheimer's disease.

Scientists at The Picower Institute for Learning and Memory at MIT have made progress in finding a potential drug for Alzheimer's disease. While current medicines focus on reducing a protein called amyloid-beta, which is associated with the disease, other issues like inflammation are still a challenge.

The new drug, called "A11," targets a genetic factor called PU.1. In Alzheimer's, PU.1 becomes too active and causes inflammation in the brain's immune cells. A11 helps by recruiting other proteins that stop PU.1 from activating inflammatory genes.

<https://news.mit.edu/2023/molecule-reduces-inflammation-alzheimers-models-0905>



## NEW HOPE FOR FIGHTING BRAIN CANCER

Researchers at UT San Antonio are exploring the potential medicinal properties of the *Artemisia annua* plant, also known as Sweet Annie. This plant has been used in traditional Chinese medicine for thousands of years and is now being investigated for its effectiveness against cancer and COVID-19.

The interdisciplinary team of researchers have made progress in understanding how the medicinal properties of Sweet Annie work. They have found that Arteannuin B shows consistent cytotoxic activity against glioblastoma cells, a type of cancer. This suggests that it may be able to inhibit certain enzymes that are overexpressed in cancer cells.

The team believes that natural products like Sweet Annie hold great potential for developing new medicines, as around 50% of prescription drugs are derived from natural sources.

<https://neurosciencenews.com/sweet-annie-brain-cancer-covid-23899/>



## NEW HOPE FOR STROKE TREATMENT

A new study presented at this year's European Stroke Organization Conference predicts a significant increase in a stroke treatment called endovascular stroke thrombectomy in the United States. This is based on updated eligibility criteria for the procedure. Previous studies have shown that thrombectomy, which removes blood clots from the brain, can be effective for patients with larger stroke areas.

This means that more people may now be eligible for this treatment.

Based on their projections, researchers estimate that the new criteria could increase the number of thrombectomies in the US by 14–37%. While this offers new opportunities for patients, hospitals may face challenges in managing the increased demand for these procedures if they don't have enough specialists trained in neurointervention.

<https://neuronewsinternational.com/new-eligibility-criteria-including-large-core-stroke-s-could-boost-thrombectomy-rates-dramatically/>



## NEW HOPE FOR IMPROVED COMMUNICATION

Scientists have achieved an amazing feat by extracting the famous song "Another Brick in the Wall" by Pink Floyd directly from people's brains.

By using electrodes, computer models, and brain scans, researchers have previously decoded and reconstructed words and thoughts from brain activity. Now, a new study published in PLOS Biology shows that music can also be decoded from brain activity.

Participants listened to the song while their brain activity was monitored. The researchers analyzed the neural signals and found that the brain's auditory areas responded to the words as well as the rhythm, harmony, and other musical elements. With this information, they developed a computer model to recreate sounds that resembled the song.

This breakthrough could eventually lead to improved communication devices for people with conditions that limit their ability to speak. Experts in the field have praised the study for its direct insights into brain activity and its impressive accomplishments.

<https://www.sciencenews.org/article/neuroscientist-pink-floyd-music-brain-activity>





**Brain Injury  
Alliance**  
ARIZONA

*Making the invisible visible since 1983*

# 40 for 40

**Help us celebrate 40 years of service with a recurring monthly donation of \$40 for an entire year.**

Your support provides hope and guidance for survivors of brain injury and their families with free programs and services.



Simply scan the QR Code, mail in your donation, or visit us online at [biaaz.org/donation](https://biaaz.org/donation).

You can also contact us at [info@biaaz.org](mailto:info@biaaz.org)  
or (888) 500-9165

*Life is better when we travel  
the journey — together.*