

SPRING 2023

# TBI TIMES

THE OFFICIAL MAGAZINE OF THE BRAIN INJURY ASSOCIATION OF CALIFORNIA

**JOHNNY  
KNOXVILLE:  
COMING BACK  
FROM A BRAIN  
INJURY AFTER  
*JACKASS FOREVER***

**THE NATION'S  
AUTHORITY  
ON TRAUMATIC  
BRAIN INJURY**

# NATIONWIDE TRAUMATIC BRAIN INJURY & CATASTROPHIC INJURY ATTORNEYS

45 YEARS OF TRAUMATIC BRAIN INJURY & CATASTROPHIC INJURY EXPERTISE

## BRIAN CHASE

*OCBA Board of Directors  
Masters Division - 2023*

*Chair - OCBA Tort & Trial  
Section - 2023*

*Daily Journal Top Plaintiff  
Lawyer - 2020-2021*

*President  
CAOC - 2015*

*Trial Lawyer of the Year  
OCTLA - 2014*

*Trial Lawyer of the Year  
CAOC - 2012*

*Trial Lawyer of the Year  
Nominee CAALA - 2012*

*President  
OCTLA - 2007*

*Product Liability Trial Lawyer  
of the Year OCTLA - 2004*

## ABOUT BRIAN CHASE:

Brian Chase is the Managing Partner and Senior Trial Attorney at Bisnar Chase. The law firm specializes in auto defects, trucking accidents, traumatic brain injury (TBI) & catastrophic injury cases, mass torts, and consumer and employment class actions.

Mr. Chase is a multiple **Trial Lawyer of the Year** winner and a **Past President** of both the **Consumer Attorneys of California** and the **Orange County Trial Lawyers Association**.

**BISNAR | CHASE**  
PERSONAL INJURY ATTORNEYS, LLP

# OVER \$800M RECOVERED IN VERDICTS & SETTLEMENTS

**AUTO DEFECT, TBI, PERSONAL INJURY, EMPLOYMENT, CLASS ACTION & MASS TORT:**

**9 - FIGURES**

Consumer Class Action

**MULTIPLE 8 - FIGURES**

Seatback Failure - Auto Defect

**MULTIPLE 8 - FIGURES**

Dangerous Condition - Govt. Entity

**MULTIPLE 8 - FIGURES**

Burn Injury - Product Defect

**MULTIPLE 8 - FIGURES**

Negligence - Rehab Facility

**MULTIPLE 8 - FIGURES**

Motorcycle Accident

**8 - FIGURES**

15-Passenger Van - Auto Defect

**8 - FIGURES**

Rollover - Auto Defect

**8 - FIGURES**

Caustic Ingestion - Premises Liability

**MULTIPLE 7 - FIGURES**

Wage & Hour Class Action

**MULTIPLE 7 - FIGURES**

Wage & Hour - PAGA Class Action

**MULTIPLE 7 - FIGURES**

Dangerous Condition - Govt. Entity

**MULTIPLE 7 - FIGURES**

Door Latch Failure

**MULTIPLE 7 - FIGURES**

Roof Crush - Auto Defect

**MULTIPLE 7 - FIGURES**

Airbag - Auto Defect

**MULTIPLE 7 - FIGURES**

Tread Separation - Auto Defect

**MULTIPLE 7 - FIGURES**

Seat Belt Failure - Auto Defect

**MULTIPLE 7 - FIGURES**

Post-Collision Fire - Auto Defect

**TOP-NOTCH LEGAL REPRESENTATION:**

Bisnar Chase is a nationwide personal injury law firm that was founded 45 years ago. Our top-rated personal injury attorneys have found continued courtroom success since 1978 and **recovered over \$800M** in verdicts and settlements.

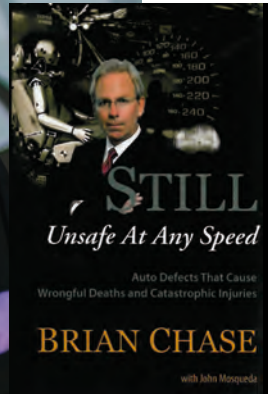
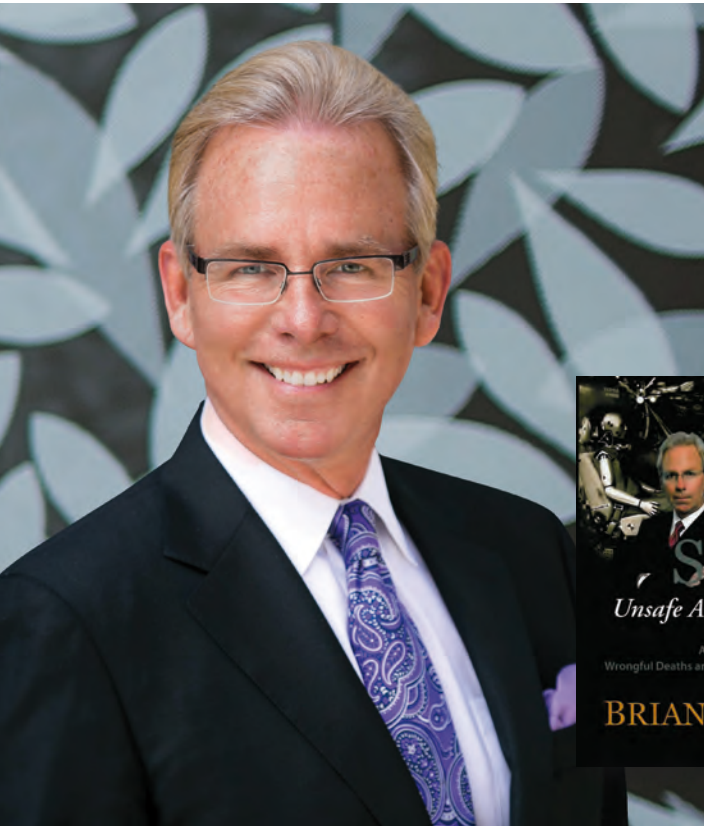
Our firm has earned a national reputation as one of the nation's toughest injury law firms. Call **800-561-4887** or visit [www.BestAttorney.com](http://www.BestAttorney.com).



Free Case Evaluation

*Bisnar Chase has established offices in Newport Beach, Los Angeles, San Diego, Riverside, and San Bernardino.*





## EMPOWERING VICTIMS OF AUTO DEFECT

Brian Chase of Bisnar / Chase, Personal Injury Attorneys, LLP, knew early on that he wanted to make a difference in people's lives. "I admired doctors because they saved lives," he says. "I remember thinking, what a great thing it is to use your own life's work to positively affect other lives." Chase did not pursue medical career but took another route that eventually allowed him to realize this mission.

Throughout college, Chase admittedly was not a "library guy" — when he wasn't attending classes, he surfed in competitions with Bob Hurley! However, a required research project lit the fire of intellectual stimulation in him. "This [research] project really drew me in, and for the first time in my life, I was enjoying an academic pursuit," says Chase.

During this time, Chase was working with Bisnar & Associates, a personal injury law practice, and he recognized a correlation between the satisfaction he experienced doing research and the work he was doing at the firm. "Because I was working with the firm principal so closely, I gained first-hand insight into how research, debate and persuasion were such a significant part of personal injury law," says Chase. This, combined with his knowledge of the

exploding Ford Pinto fire cases and learning how Ford placed profit over lives rather than fixing the defective gas tanks thoroughly, sparked an analytical excitement coupled with his deep desire to make a difference in people's lives. This solidified his decision to pursue personal injury law immediately following his college graduation, a path taken by few in personal injury law firms. Chase went to law school expressly to be a personal injury trial attorney.

Chase completed his education and continued with Bisnar & Associates, taking on his first jury trial only six weeks after taking the Oath of Admission. He eventually entered into a 50/50 partnership with the firm's founder in 1998 and finally took over the firm, rechristening it Bisnar / Chase, in which the firm has expertise in all types of catastrophic injury cases but specifically in auto defect litigation.


Today Chase is known affectionately as the "auto defect guy" with tens of thousands of case hours devoted to representing clients against billion-dollar auto manufacturers in the areas of rollover, tire, fire, roof crush, seat belt, and airbag defect catastrophes. He was even involved in the largest automotive recall in United States history; the Takata airbag recall. "You could call it the 'David and Goliath' effect," he says. "I love the challenge of representing clients against these large billion dollar international auto manufacturers."

With Chase's expertise in auto defect law comes a wealth of knowledge and specialization in the traumatic brain injury (TBI) space. Why? Because according to Chase, where there is auto defect, there is often TBI. Take, for example, one of the auto industry's most publicized defects, vehicle front seats collapsing in rear end accidents. Chase explains: "If you get hit from behind at 30-40 miles per hour or more, your seat will lay down flat, and you'll be projected back into the rear seat, potentially breaking your neck and sustaining a TBI. I see several of these cases every year."

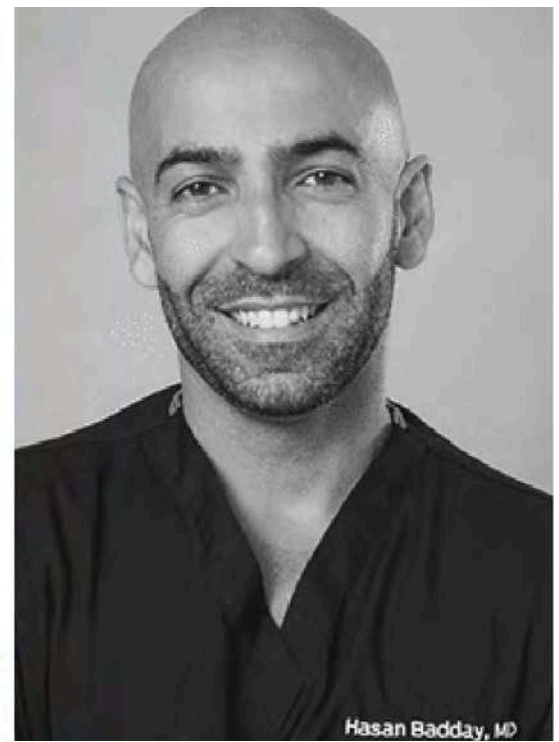
Chase is particularly proud of the outcome of one of these cases — that of a young college student who sustained a broken neck and a TBI because of her seatback collapsing after a collision. Not only did Chase win a \$24.7M verdict for this client, which met all of her life-care needs, but his winning verdict was published after a failed appeal, creating a benchmark in the law for seatback cases.

Though Bisnar / Chase takes on cases nationally and across many practice areas; premises liability, wrongful death, class action, employment law, mass torts, and more — and has won over \$800M in verdicts and settlements, auto defect is where Chase finds his fulfillment. He even wrote two books about it: *Still Unsafe At Any Speed*, a pick up where Ralph Nadar left off in his 1965 expose of the automobile industry's disregard for consumer safety and his more recent book, *The Second Collision*, a follow up and update to his first book with added trial strategies

"This is where I find that feeling of 'my life work matters' because I am helping those who have been devastated by an auto defect, from being paralyzed or from suffering a catastrophic TBI that requires lifelong care. These people are often breadwinners, who are no longer capable of earning a living to support their families," he says. "I'm passionate about helping victims of auto defects get the support and care that they and their families need."

For more information about Bisnar / Chase, visit them online at [www.BestAttorney.com](http://www.BestAttorney.com) or call 800-561-4887. 





Hasan Badday, MD

# HASAN BADDAY, MD

EXPERT WITNESS • MEDICAL LIENS • DEPOSITION EXPERIENCE • CASE MANAGEMENT

**Dr. Hasan Badday** is trusted amongst the highest qualified personal injury attorneys in Los Angeles and Orange County for many years. Dr. Badday is double board certified, fellowship trained interventional pain management specialist and stem cell specialist. He accepts medical liens, has been in multiple depositions, sat as an expert witness and has been put on retainer for trials. Reports are always thorough, comprehensive, and done in a timely manner. They address the history of present illness, description of the accident, any imaging that is done, and recommendations and treatment plan from the doctor. The staff has good relationships and works diligently with the attorney's office and their staff. Dr. Badday enjoys working with the attorneys and our mission is to help their clients relieve their pain and improve their quality of life.

**There is no cost to the attorney, no commission, and no hidden fees.**

## Fellowship & Residency

Residency **2009-2011**  
**Georgetown University Hospital**  
National Rehabilitation Hospital  
Washington, DC

Fellowship **2012-2014**  
**Interventional Spine & Pain Management**  
Minimally Invasive Pain Institute  
McLean, VA

## Medical Directorships

Medical Director **2015 - Present**  
**Pacific Pain & Regenerative Medicine**  
Irvine, CA

Medical Director **2019 - Present**  
**OC Wellness Physicians Medical Group**  
Irvine, CA

## WHY DR. BADDAY?

DOUBLE BOARD CERTIFIED  
ORTHO SPINE AND JOINT EXPERT  
SPINAL CORD STIMULATOR  
TRIAL AND IMPLANT  
PLATELET-RICH PLASMA (PRP)  
REGENERATIVE MEDICINE  
SPINAL RADIOFREQUENCY ABLATION  
SI JOINT INJECTIONS  
MEDICATION MANAGEMENT  
EPIDURAL INJECTION  
FACET JOINT INJECTION  
FUTURE CARE ASSESSMENTS  
FRIENDLY STAFF



CONTACT US TODAY

PHONE: 949-485-4257  
WEBSITE: [pacificpainfree.com](http://pacificpainfree.com)  
EMAIL: [info@pacificpainfree.com](mailto:info@pacificpainfree.com)



ONE

injury attorneys

LET'S JOURNEY TO  
MUCH BIGGER VERDICTS

BRAIN INJURY LITIGATION MASTERED

800 379 3300

[WWW.ONELAWUS.COM](http://WWW.ONELAWUS.COM)



**ERICA CHAVEZ, ESQ.**

ONE INJURY ATTORNEYS, CEO

BRAIN INJURY ASSOCIATION OF  
CALIFORNIA, CHAIRMAN

**ONE NATION,  
ONE LAW FIRM,  
NO LIMITATIONS.**

A visionary and leader in the profession of law, Erica secured the highest position in the field of brain injury in the State of California, the Brain Injury Association of California Chairman of the Board. She has also grown TBI Med Legal to be the largest brain injury conference in the world.

Erica applies her national/international brain injury resources and experience to add value to each one of her cases. With ONE Injury Attorneys™, she strives to build the best legal and medical teams to bolster verdicts.





ATTORNEY CARAWAY  
 ENJOYS WORKING DIRECTLY  
 WITH CLIENTS AND BEING  
 ABLE TO PROVIDE SUCH  
 SUBSTANTIAL RELIEF  
 TO PEOPLE IN NEED.

**Chuck Caraway, Partner**

Attorney Charles "Chuck" Caraway is passionate about helping provide monetary relief for individuals and families who have suffered injury from an accident. Clients who work with him benefit from his compassion and years of diverse experience. He values his clients' individual needs and unique perspectives and takes the time to listen and guide them through this difficult time.

2017 - 2023  
 California "Rising Star" Super Lawyer

2011-2019  
 American Institute of Legal Advocates

American Institute of Personal Injury Attorneys **Excellent Client Service**

**Top Attorneys** of North America

American Academy of Attorneys  
**Top 40 Under 40 in Personal Injury**

EXPERIENCED  
**BRAIN & CATASTROPHIC INJURY**  
 TRIAL ATTORNEYS



2020 - 2023  
California Super Lawyer

2011-2019  
California "Rising Star" Super Lawyer

2018, 2019  
Sacramento Magazine's Top Lawyers  
Multi-Million Dollar Advocates Forum  
Million Dollar Advocates Forum



*Daniel Del Rio, Partner*

Attorney Daniel Del Rio has more than two decades of experience representing personal injury victims. In each and every case, he passionately upholds the rights of those who have been injured or whose loved ones have died as the result of another's negligent or reckless behavior. Driven by a passion to help the injured, Attorney Del Rio skillfully represents his clients in and out of court.

---

ATTORNEY DEL RIO  
HAS THE KNOWLEDGE  
AND EXPERIENCE TO  
HANDLE A WIDE VARIETY  
OF CASES WITH EXCELLENCE

---

---

MILLIONS  
RECOVERED

---

Schedule A Free Consultation:  
**855 CAR ACCIDENT**  
[www.delriolawoffice.com](http://www.delriolawoffice.com)

**DDC**  
Del Rio & Caraway, P.C.  
Injury Attorneys





**PRIORITY**  
RESPONSIBLE FUNDING, LLC



## INCREASING CASE VALUES WITH NON-RECOURSE CAPITAL

Like many entrepreneurs during the COVID-19 pandemic, Brett Findler, President of Priority Responsible Funding, LLC, was faced with a dilemma; how to reach his audience and grow his business at a time when everyone was in quarantine. Luckily, Findler had forged valuable relationships with many educational platforms and so he leveraged these connections to sponsor webinars which aimed to educate the personal injury law community on the value of non-recourse funding.

What happened next could only be serendipity. Not only did Findler reach his audience in Florida, where the company was founded, he became somewhat of a national sensation in the funding space, reaching audiences across the country. "We were able to reach the West Coast because a majority of these education companies were based in California," says Findler. "Now we are funding in 28 states." In fact, to date the company has granted in excess of \$200m in funding, empowering attorneys and helping thousands of injured clients by levelling the playing field against powerful insurance companies "Turning the 'Davids' of the trial lawyer universe into 'Goliaths' overnight has defined my career," says Findler.

The inspiration for his company came early in Findler's career as a trial attorney. "I recognized very early on that I was not getting the kind of results I wanted," he says. "We simply didn't have the capital needed to put on the Broadway production required to bring home the big wins." By *Broadway production*, Findler means hiring the best experts, commissioning the best visuals, and obtaining the latest technology, all of which bring a case to life. "It wasn't that I was not a good attorney," says Findler. It simply came down to the budget." And to make matters even worse, Findler explains, as his case values dropped and capital decreased, so did his ability to acquire the necessary tools to enter into trial prepared for battle. "I thought, there has to be a way to empower trial attorneys by providing them with the capital they need to win cases."

Through his partnership, Findler has been able to source unlimited capital to help trial lawyers and their seriously injured clients take on powerful insurance companies and corporations. He is passionate about informing personal injury attorneys on how they can dramatically increase their case values using non-recourse funding. "I always stress to attorneys that they need to look at funding not as a cost but as an investment," says Findler. He equates the investment of funding and its effect on the monetary outcome of a case to that of a kitchen renovation and its effect on the sale price of a home. "A home selling for \$300k more than others in the neighborhood because the owners invested \$100k in a new kitchen is comparable to an attorney investing in non-recourse funding and consequently tripling the settlement of a case," he says.

Findler also wants attorneys to know that non-recourse funding presents no risk because regardless of the outcome of a case, the funds borrowed do not need to be repaid. The only collateral is the case itself.

In addition to non-recourse funding for trials, Priority Responsible Funding also offers medical funding. This can be valuable in TBI cases because while it is fairly easy to find doctors to work on lien, it is very difficult to secure the treatment needed by TBI survivors in the same way. "I found that it was impossible to source inpatient facilities on lien for my clients suffering from TBI which is precisely what they needed," says Findler. It was also important to Findler that his company made funding available for non-catastrophic care. He explains that in a catastrophic case, for example when a client is paralyzed, the necessary medical intervention isn't questioned in the same way it is in a non-catastrophic case.

If all of the aforementioned doesn't win you over, Priority Responsible Funding, LLC was founded and is run by trial attorneys. This means there is absolutely no communication gap. Attorneys seeking funding do not need to explain anything outside of the specifics of their case. This seamless customer services allows Priority Responsible Funding to quickly access a case and expedite funding so attorneys can focus on what matters — helping their clients.

For more information about Priority Responsible Funding: [www.priorityresponsiblefunding.com](http://www.priorityresponsiblefunding.com), [info@priorityresponsiblefunding.com](mailto:info@priorityresponsiblefunding.com), 855 FUNDS-4-ME (855 386 3746). 📞





# BUYING AND SELLING ALL OF CALIFORNIA

Find out what your house is *really* worth.



MAGGIE PADILLA  
*realtor*®



MAGGIE PADILLA, REALTOR®

📞 707.803.8885 📄 DRE #01157629

✉️ MAGGIEPADILLA@YAHOO.COM

🌐 MAGGIEPADILLAREALTOR.COM



RE/MAX GOLD

Each Office is Independently Owned & Operated

**A REVOLUTIONARY APPROACH TO HEALTHCARE**



**GLOBAL**  
**LIEN DOCTORS.com**

**(888) YUP-LIEN**

**(888) 987-5436**

**info@glldocs.com | www.globallienDoctors.com**





**THE LARGEST NETWORK OF LIEN SURGEONS & DOCTORS**





YOUR DONATION TO THE BRAIN INJURY ASSOCIATION OF CALIFORNIA HELPS TO SUPPORT CHILDREN'S HOSPITAL LOS ANGELES.

**DONATE TODAY: 833 636 3824**



# TBI TIMES

**PUBLISHER**  
DR. NICHOLAS LOLOEE

**CHAIRMAN, BRAIN INJURY ASSOCIATION OF CALIFORNIA**  
ERICA CHAVEZ, ESQ.

**CREATIVE + EDITORIAL DIRECTOR**  
MICHELLE ST. HILAIRE

**ADVERTISING SALES ASSOCIATES**  
TERI BALLARD  
KAWNI GILROY

**COPY EDITOR**  
MIKE FREEMAN

All editorial content of TBI Times is the intellectual property of the Publisher and is protected by intellectual property laws. TBI TIMES content may not be reproduced, republished, distributed, transmitted, displayed, broadcast, or otherwise used in whole or in part in any manner without the express written permission of the intellectual property owner. ©2023 BIACAL. All rights reserved. The views expressed in TBI Times are those of the authors and not necessarily those of the Publisher. The Publisher expressly disclaims and does not assume responsibility for the validity of any claims or any statements made, including content errors, omissions, or infringing content. Any reliance placed on any claims or statements is assumed by the reader at the reader's own risk. Advertisements and offers are the responsibility of the individual advertising entities and do not constitute a legal offer by the Publisher.

**EDITORIAL INQUIRIES:** [editorial@TBITimes.com](mailto:editorial@TBITimes.com)  
**ADVERTISING INQUIRIES:** [advertise@TBITimes.com](mailto:advertise@TBITimes.com)  
[www.tbimes.com](http://www.tbimes.com)

SERIOUS INJURY TRIAL LAWYERS

888-661-0444 | [info@tissotlawfirm.com](mailto:info@tissotlawfirm.com)

EXPERIENCE

# THE TISSOT DIFFERENCE

Lead attorney with 30+ jury trials  
handles your case from intake to trial

---

50% referral fees paid promptly\*

---

Work with the lawyer that teaches other  
lawyers TBI litigation nationwide

---

Deep knowledge and concentration in  
brain injury like no other attorney in the nation



## PRACTICE AREAS

TBI | CATASTROPHIC INJURY | SPINE INJURY | PREMISES LIABILITY  
PRODUCT LIABILITY | MOTORCYCLE/AUTO ACCIDENTS | DOG BITES | BURN INJURY

## FULLY-STAFFED OFFICES THROUGHOUT CALIFORNIA

BEVERLY HILLS | MANHATTAN BEACH | SAN DIEGO | ORANGE COUNTY  
SAN FERNANDO VALLEY | SAN FRANCISCO | HANDLING SELECT CASES NATIONWIDE





## ELITE LITIGATOR, MENTOR, AND INFLUENCER JEREMY TISSOT REDEFINES 'GIVING BACK'

Jeremy Tissot isn't your average trial attorney. Hardly. This bonified TBI expert on the personal injury circuit has blazed a trail like no other in his industry. In fact, even a cursory review of his CV and biography may give the illusion that success and monetary achievement are at the forefront of Jeremy's drive. Not so. Though the lifestyle afforded by his hard work and success in the industry is evident in his Instagram feed — think Cabo San Lucas, Mexico, Río Urubamba, Peru, ocean views, and alpine skiing — more so is his humble nature, commitment to service, and the devotion and appreciation of those he serves. "I want you to know that I appreciate everything you do for me and the fact that you go out of your way to help me," states one of Jeremy's clients. "I want to make sure you know you're doing a super job."

Jeremy is passionate about mentoring up-and-comers and has co-counseled many startup attorneys, not only advising them on their current cases but helping them to sharpen their own litigation abilities. His acumen as an expert litigator, having tried numerous cases to juries, has made him the go-to resource for pre-litigation firms looking to partner with a trial lawyer that will give them that elusive edge in the courtroom. And what exactly is this *edge*? Put simply, expert litigation backed by extensive trial experience — what Jeremy refers to as 'The Tissot Difference'.

The founding partner of The Tissot Law Firm, a boutique firm specializing in litigating TBI and catastrophic cases, Jeremy has created a name for himself through trying high-profile juried cases, his place on the conference circuit, and *really* knowing the medicine behind TBI to leverage multi-

## PROFESSIONAL SPOTLIGHT



million dollar verdicts for his clients. But if you were to ask Jeremy what mattered most to him, he would say his charitable work on the board of the LA Trial Lawyers Charities (LATLC), which has donated many millions to those in need.

You see, Jeremy didn't want to just fulfil the status quo of *giving back* once he reached his desired level of success. He wanted to — and does — put his multitude of experience in the TBI and personal injury space to work for those in the community. "One of the first tasks I was charged with by LATLC was to secure sponsorships," he says. "I found it very natural to ask corporations for dollars that would make a difference in the community — much more fulfilling than convincing an insurance company that my case had merit," (which incidentally he is also *very* good at). And with LATLC making such a huge difference with programs that help the homeless, battered women, and children, it's no wonder Jeremy finds fulfillment in his work with the organization.

Jeremy found his tribe at LATLC. "I attended an [LATLC] event and had what may be considered a spiritual experience," he says. "I just knew this was a circle I wanted to be in." He even credits his work with the organization for sparking his passion for conference presenting and mediation.

One can see the connection since advocacy and education go hand in hand. One can also see how Jeremy has been successful in both worlds — his star power is undeniable and his presentation style is beyond original. Take for example his witty social media persona *TBI Titan* (follow him @TBITitan) or *Gorilla Warfare Tactics*, a concept Jeremy created to mentor other attorneys on how to ignite case values à la Rambo (you can experience it for yourself at the 2023 TBI Med Legal Conference

and other conferences across the country as well as in his webinar series). Most certainly a contributor to his success trying cases, his compelling and magnetic personality is one of a kind.

Though it's undeniable that Jeremy is an insider now, this wasn't always the case. An East Coast transplant (Boston to be exact), he attended Pepperdine Caruso School of Law in Los Angeles, where he admittedly was a small fish in a big pond. "I didn't come from money," he says. "My parents raised me to be hard working." And so he worked *hard*. He excelled at Pepperdine and began working at a prestigious defense litigation firm where he became a top revenue generator even as an associate and quickly climbed the ranks to partner.

Jeremy gives substantial credit to his trial experience early in his career for helping him find his niche as a seasoned litigator. "I started at a firm where you had a chance to try cases if you worked hard and didn't mess up," he says. This laid the groundwork for building The Tissot Law Firm with a focus on litigation.

Today Jeremy has a mantra that he shares with whoever will listen: Learn/Do/Teach. "I'm never above learning," he says. "Even now, I try three to four TBI or catastrophic cases a year. I'm always learning and doing even as I'm teaching."

For pre-litigation attorneys in need of a phenomenal litigator who adds tremendous value to any legal team, Jeremy Tissot is your man. The Tissot Law Firm has offices throughout California and also handles select cases out of state. Contact them today to experience 'The Tissot Difference': 888-661-0444, [jtissot@tissotlaw.com](mailto:jtissot@tissotlaw.com). Visit The Tissot Law Firm online: [www.tissotlawfirm.com](http://www.tissotlawfirm.com). Follow Jeremy on Instagram: @TissotEsq and @TBITitan. 📌





BILL BENDER



TYLER CAMPBELL

# BENDER KURLANDER HERNANDEZ & CAMPBELL

Personal Injury & Workers' Compensation Attorneys

**We will work to help you get the  
compensation you need and deserve.**

Experienced advocates for head injury victims  
and their families with a record of success in both  
personal injury and workers' compensation cases.

**CONTACT US FOR A FREE CONSULTATION**

**619 842 3232 | [bkhclaw.com](http://bkhclaw.com)**



# Amirhassan Bahreman, M.D. Quadruple Board-Certified Neurologist



Dr. Bahreman is an American Diplomat in Neurology and Psychiatry, Brain Injury Medicine, Clinical Neurophysiology and Vascular Neurology by APBN. As a passionate advocate and specialist in brain injury, he has recently been appointed as a board member of the Brain Injury Association of California (BIACAL).

## **SPECIALIZING IN**

- Traumatic Brain Injury
- Stroke
- Spinal Injuries
- Neuromuscular Disease
- Headache Disorders



619 460 5850

8851 Center Dr. #608, La Mesa, CA 91942



# AFTER BEING INJURED IN

*THE BEST MEDICAL CARE  
TO FIGHT FOR YOUR LIFE*

- Choosing the right personal injury lawyer is as important as choosing the right doctor, with each, you put your life in their hands. Choose the best. Choose The Dolan Law Firm.
- “For over 29 years I have been fighting for injured people, helping them get the care they need while obtaining the maximum compensation the law allows. Doctors are experts in the operating theater, my theater is in the courtroom where I operate with surgical precision.” - Chris Dolan

***WHEN TRAGEDY STRIKES,  
WE STRIKE BACK HARDER***



# AN ACCIDENT YOU NEED

## THE BEST LEGAL TEAM TO FIGHT FOR YOUR RIGHTS



### Why we say we are the best

- Over \$1 Billion in verdicts and settlements
- California Trial Lawyer of the Year
- Daily Journal Top 100 California Attorneys
- Los Angeles Trial Lawyer of the Year Finalist
- San Francisco Trial Lawyer of the Year (x2)
- Best Lawyers in America U.S. News and World Report
- Alameda County Trial Lawyer Of The Year
- California Lawyer Attorney of the Year (CLAY)
- Daily Journal Top 25 Plaintiff Lawyers
- Top 100 Superlawyer
- CAOC Trial Lawyer Of The Year
- Marin County Trial Lawyer Of The Year

### CASES HANDLED:

- Brain Injuries
- Burn Injuries
- Workplace Injuries
- Spine Injuries
- Paraplegia
- Medical Leave Rights
- Amputations
- Orthopedic Injuries
- Disability Rights

OFFICES IN LOS ANGELES, REDONDO BEACH, SAN FRANCISCO & OAKLAND

[DOLANLAWFIRM.COM](http://DOLANLAWFIRM.COM) 800-339-0352





## TABLE OF CONTENTS

### 24 LETTER FROM THE BIACAL BOARD

### 26 COVER STORY

Co-creator of the Jackass media franchise, Johnny Knoxville, on his recovery from TBI

### FEATURES

### 36 BRAIN TSUNAMIS

This newly discovered phenomenon could hold the key to TBI recovery

### 38 THE POLYTRAUMA PUZZLE

The treatment of TBI patients who have multiple injuries

### 42 1000 REASONS FOR HOPE

The Concussion Legacy Foundation celebrates the first 1,000 brain donors studied

### 46 TO BE VACCINATED OR NOT TO BE VACCINATED

A look at the vaccination debate historically and today

### 52 CREATIVE HEALING

Finding hope through art after traumatic brain injury

### 56 BODY DYSMORPHIA AND TBI

Frontal lobe head trauma may cause changes in how patients perceive their appearance

### 60 THE COGNITIVE COST OF WAR

The silent destruction that war leaves in its wake

### 68 DOMESTIC VIOLENCE AND TBI

How physical and emotional abuse effect the brain

### 70 NEURO VR

How virtual reality is changing the landscape of TBI treatment

### 90 PHINEAS GAGE

The amazing story of America's 'crowbar case'

### 86 FOREIGN ACCENT SYNDROME

The unexplainable phenomenon that causes a person to speak with a foreign accent



COVER STORY



DOMESTIC VIOLENCE AND TBI



NEURO VR



BODY DYSMORPHIA AND TBI



THE COGNITIVE COST OF WAR

THERE'S NOTHING BETTER THAN WORKING WITH  
**F•R•I•E•N•D•S**

**855.855.8910**



**OVER \$30M PAID  
IN PARTNERSHIP  
FEES IN 2022**

We're ready to try cases.  
You're ready to partner.  
Let's do this, friends.



**LEGAL NEED? GO TO JUSTICE.TEAM**

**ANY CASE, ANY CLIENT, ANY COURTROOM.**

Offices in CA, AZ and TX





**FEATURES**

**88 SEEING CLEARLY AFTER TBI**  
Understanding how TBI effects vision

**90 LONG-HAUL COVID AND THE BRAIN**  
How post-COVID syndrome effects the brain

**94 LIFE AFTER COVID-19**  
A look at the damage that COVID has left in its tracks

**SPECIAL SECTION**

**102 THE TBI MED LEGAL CONFERENCE**  
A look at the past, present and future of this historic event

**DEPARTMENTS**

**108 EXAMINE**  
The latest in TBI research and treatment

**111 CONCUSSION DETECTING SOFTWARE**

**112 BRAIN INJURY TRACKING SENSOR**

**113 TBI AND FETAL DEVELOPMENT**

**115 PHARMACEUTICAL TREATMENT OPTIONS FOR TBI**

**116 ANIMAL THERAPY FOR TBI**

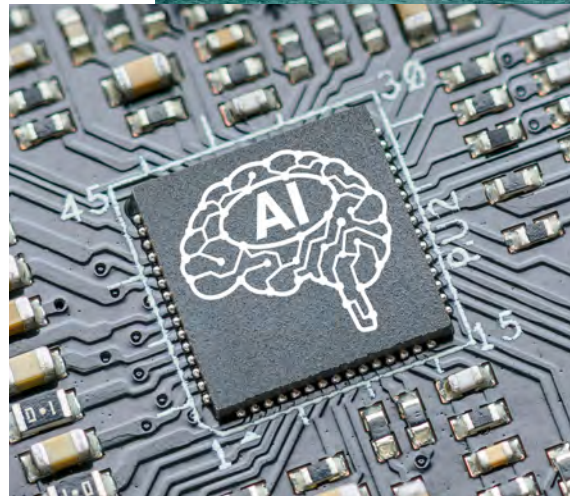
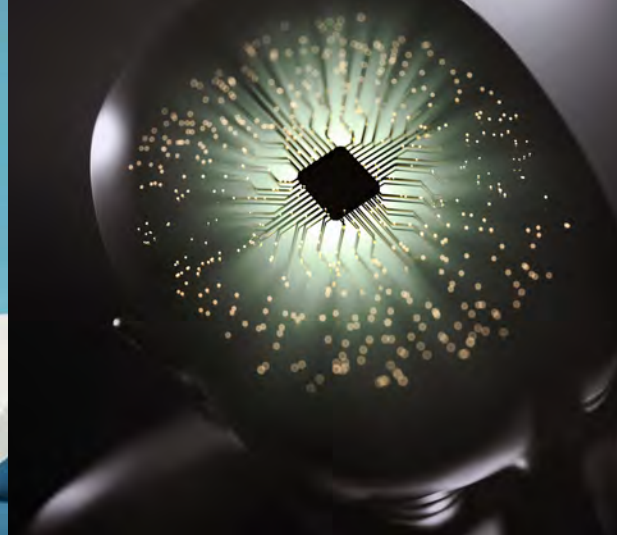
**117 THE INJECTION THAT MAY HAULT TBI**

**118 TRANSCRANIAL MAGNETIC STIMULATION**

**119 DEEP BRAIN STIMULATION**

**120 THRIVE**  
A celebration of TBI survivors living their best lives

**143 READING ROOM**  
Must-reads for TBI survivors and their families





## PROVIDING **HIGH QUALITY SOLUTIONS** FOR COPY AND DUPLICATION OF LEGAL RECORDS

### RESOURCES

- Jet-File
- 24/7 Tech & IT Support
- Ratings Calculator & Mobile App
- PD Charts
- Paperless Solutions
- Search Engine Optimization (SEO)

### EXPEDITED DOCUMENT RETREIVAL

- Workers Comp / Personal Injury / Personal Appearance / Special Notice of Lawsuit
- Medical Record Reviews
- Record Duplication
- Catagorization & Pagination
- X-Ray, MRI, & CT Film Duplication

### DISCOVER

Expedited and comprehensive review process through discovery

### IDENTIFY

Close collaboration with preferred SIBTF evaluation group resulting in complete medical history pre-evaluation

### CALCULATE

Instant benefits estimate using our ratings calculator or receive rated reports within 24 hours

### REVIEW

Medical record summary provides precise injury information and identifies any overlooked treatments that are pertinent to the evaluation process.



# WE DELIVER THE EXPERIENCE YOU EXPECT.







ERICA CHAVEZ, ESQ.  
CHAIRMAN



DR. NICHOLAS LOLOEE, DC  
VICE CHAIRMAN

Welcome to the Spring 2023 edition of *TBI Times*. We at BIACal are proud to present our readers with this educational and inspiring issue jam-packed with resources and knowledge designed to inform, motivate, and enlighten traumatic brain injury (TBI) survivors and their families.

In a world that we can finally call post-pandemic, our mission is to inspire those affected by TBI to live their best lives. By providing the latest groundbreaking scientific research on TBI, we hope to help them navigate the complicated journey back to health after trauma.

The diverse topics in this issue will keep you engaged from start to finish including our cover story which profiles veteran reality stuntman and co-creator of the Jackass media franchise, Johnny Knoxville, after suffering a brain injury on the set of his newest movie.

Our content is designed to help our readers make informed and educated choices based on concrete and reliable information — check out our Examine department on page 108 which highlights the latest innovations in TBI research and treatment. We report on truly fascinating stories that are stretching even the minds of scientists — for example, the story of Phineas Gage, America’s ‘crowbar case’ (page 80), and the unexplainable phenomenon of foreign accent syndrome (page 86). We’ve also included a healthy dose of inspiring real-life stories of individuals with TBI who have conquered their limitations and are enjoying life to the fullest.

We hope this issue inspires you to move forward on your TBI journey with enthusiasm and we look forward to continuing to bring you quality TBI-related content.

Sincerely,  
The Brain Injury Association of California Board

# HAPPY سال نو مبارک NOWRUZ



How should Spring bring forth a garden on hard stone? Become earth that you may grow flowers of many colors. For you have been heart-breaking rock. Once, for the sake of experiment, be earth.

~ Rumi



HAS JOHNNY KNOXVILLE FLOWN

# TOO CLOSE TO THE SUN?

PHOTOS COURTESY OF PARAMOUNT PICTURES AND MTV ENTERTAINMENT STUDIOS, SHUTTERSTOCK (INSET)



The veteran reality stuntman, co-creator of the Jackass media franchise, and self-proclaimed ‘blunt force trauma guy’ may finally be ready to stay *behind* the camera after suffering serious brain damage during the filming of *Jackass Forever*.







PHOTOS COURTESY OF PARAMOUNT PICTURES AND MTV ENTERTAINMENT





O

ne can't help but make the Icarus comparison as the vision of Johnny Knoxville (aka Philip John Clapp) being shot out of a giant cannon wearing wings flashes across the big screen in *Jackass Forever*, the ninth movie installment in this physical comedy franchise which kicked off in 2002 with *Jackass: The Movie*, preceded by the MTV series simply titled *Jackass*.

As I watch Knoxville fly through the air in superb form, I wonder if even he thinks this may be taking things just a little too far. "When I shot out and I spread my wings like planned, I was so happy, then gravity kicked in. I started going down and turned into a big chicken in flight," says Knoxville. "But as Willie Nelson once said, 'There's nothing I can do about it now.'"

When asked what he does for a living, Knoxville replies "I work with gravity and Newton's third law of motion". Well, technically, but that isn't quite the whole picture. An American stunt performer, actor, and filmmaker, Knoxville started his career in commercials and as an extra in a variety of films. Outside of the infamous Jackass franchise, Knoxville's filmography includes *Men in Black II*, *A Dirty Shame*, *Walking Tall*, *The Dukes of Hazzard*, and *The Ringer* among others. He also voiced Leonardo in *Teenage Mutant Ninja Turtles*.

Additionally, Knoxville owns his own production company—Dickhouse Productions—and if that weren't enough, he's had a notable involvement with World Wrestling Entertainment, Inc. (WWE) including appearances in their Royal Rumble and SmackDown productions, facing off against Canadian professional wrestler Sami Zayn.

Of all of Knoxville's career highlights, it may seem like his involvement with the WWE could have inspired his claim-to-fame, Jackass, with their common thread of controlled, over-the-top stunt performances. However, Jackass came to be long before Knoxville stepped into the WWE ring. Some speculate that his pre-entertainment industry vocation of being a test dummy for various self-defense weapons could have been the creative spark that ignited the Jackass concept, but that wouldn't be correct either. In fact, it was Knoxville's failure to secure his 'big break' in Hollywood that prompted him to follow his natural talent for "making a spectacle of himself" [his words].







After years of chasing mainstream success in the entertainment industry, Knoxville, with help from directors Jeff Raine and Spike Jonze, pitched a television series to MTV with the simple concept of a cast of nine carrying out stunts and pranks on each other or the public, and voila, *Jackass* was born. The show debuted on October 1st of 2000 and the rest is history.

Beginning with the television series and culminating with the most recent *Jackass* addition, *Jackass Forever*—released in February of 2022, over the years, the stunts and pranks have escalated from the benign—at least by *Jackass* standards—to the downright dangerous, and even PTSD inducing. “By the end of filming, they’re [the crew] suffering from PTSD. You can just tap them on the shoulder, and they’ll go down. They’re in terror.” says Knoxville.

Take, for example, the classic escapade from the first *Jackass* movie, ‘Golf Course Airhorn’. This harmless—and hilarious—prank involved the *Jackass* crew sounding airhorns just as golfers wound up their backswings, throwing them off balance and sabotaging their endgame, the innocent antics harkening back to the simple pranks of the MTV series.

Knoxville and his crew stepped things up in later *Jackass* film with ‘Super Mighty Glue’, in which the crew got their hands on some extremely potent glue, and then used it to affix their bodies together and then pull them apart [ouch!], and ‘Mousetraps’ in which a member of the crew dressed as a mouse crawled through a field of mouse traps in pursuit of a piece of cheese.

As for *Jackass* stunts that Knoxville himself has performed, they have run the gamut. To name a few, there was the rent-a-car crash up derby, in which Knoxville came close to being crushed, the big red rocket which Knoxville rode hundreds of feet into the sky before it malfunctioned and almost blew him to pieces, and the giant evergreen tree Knoxville climbed to the top of before his crew chopped it down at its base, sending him plummeting to the ground.

The injuries that most certainly ensued after the latter mentioned stunts are undeniable, however, as the *Jackass* cast’s forthcoming feats proved, viewers had not seen anything yet. Enter the bulls.

Bovines have held a special place in *Jackass* history. There was the bull that was encouraged to charge four men—one of which was Knoxville—riding a teeter-totter. And the bull whose vision was put to the test when challenged to see the camouflage Knoxville as he stood against a painted backdrop, himself painted to blend in—the bull passed the test and not only spotted Knoxville but charged at him aggressively. And finally, the less contrived stunt where a blindfolded Knoxville simply entered an enclosure with an agitated bull and just waited to be pummeled, which he was, severely.

Fast forward to *Jackass Forever*. Suffice it to say, Knoxville has taken things to another level, no bull, and the bodily damage it has caused is proof of that—namely a severe concussion and brain hemorrhage that caused him to lose most of his cognitive abilities for three months. In other terms, he suffered a traumatic brain injury (TBI).

And what exactly initiated Knoxville’s TBI? You guessed it, a bull. In the most recent rendition of the *Jackass* staple, Knoxville enters a bullring in full magician garb and performs a magic trick for said bull, who obviously was not in the mood to be entertained. The magic show culminated in Knoxville being charged and rammed by the animal, catapulting him ten feet into the air with one and a half rotations, finally landing him squarely on his head. “I guess that bull just didn’t like magic.” Knoxville later said.

After the calamity, Knoxville lay motionless on the dirt snoring, yes snoring. “My doctor said that was me trying to swallow my tongue,” he says. It’s ironic how even his unconscious bodily response to the trauma played into *Jackass*’s trademark slapstick humor. All joking aside, this was serious. After about a minute, Knoxville came to, and shortly after, an ambulance shuttled him off to the hospital where the damage was assessed.



In the broken bones department, he got off pretty easy—just a broken rib and wrist. But in the days and weeks following the accident, the brain damage caused Knoxville to struggle cognitively and mentally. “My doctor asked me, ‘Are you having trouble concentrating?’ Apparently, I scored 17 out of 100 on a test measuring my cognitive ability. I couldn’t focus, I couldn’t edit.” Knoxville says. He also slipped into a depression—a first for him—and had debilitating headaches “My brain was just playing tricks on me. I got really depressed and over-focused on things.”

Depression or no, Knoxville faced his TBI treatment head-on, in true Jackass form. His team of neurologists and neuropsychologists tackled his symptoms using a combination of psychiatric medication, behavioral therapy, and transcranial magnetic stimulation (TMS), all of which are common treatments for the symptoms of TBI.

Though TBI Times is not aware of the precise medication Knoxville was prescribed, it is well-published in medical journals that selective serotonin reuptake inhibitors, commonly referred to as SSRIs, are the most effective antidepressants for people with TBI. Specifically, sertraline and citalopram—commonly known as Zoloft® and Celexa®—may have the fewest side effects and may even improve cognition. That being said, according to an article published in the *Mental Health Clinician* by Sophie Robert, BPharm, PharmD, BCPP, tricyclic antidepressants such as bupropion and lithium, are best avoided or used cautiously in the treatment of depressive symptoms caused by TBI.

Often prescribed as a companion treatment to psychiatric medications, cognitive behavioral therapy (CBT) is another go-to for helping TBI patients experiencing emotional regulation and mental health issues—both of which CBT is extremely effective at addressing. According to a study conducted by Jennie Ponsford, Ph.D., and published in the *Journal of Head Trauma and Rehabilitation*, depression, anxiety, obsessive-compulsive

tendencies, mood swings, impulsivity, lack of emotion, and difficulty with social interactions are all potential TBI symptoms that can be effectively treated using CBT.

Based on Michael Faraday FRS’s principle of electromagnetic induction, TMS uses low-intensity magnetic pulses to stimulate the nerve cells of the brain which some studies have shown to alleviate the mental health side effects of TBI as well as improve cognitive ability. The treatment is performed in a doctor’s office while the patient is fully awake, and each session approximately 20 minutes in length. Though TMS is becoming a popular treatment for TBI, the jury is still out on its actual benefit for TBI patients.

As is true with any medical treatment, results may vary, but in Knoxville’s case, his treatment combo did the proverbial trick. In his own words: “It was a really hard recovery from this last injury, but I’m great now. I feel like I’m the healthiest I’ve ever been.”

Like many stuntmen and women, Knoxville has effectively sacrificed his body for his career. He says that his doctors equate his collective trauma to “being involved in a major car crash”—aside from his TBI, the list of injuries he has incurred filming the Jackass franchise is jaw-dropping and includes a broken collarbone, broken wrists and ribs, sprained ankles, herniated discs, torn tendons, and orbital blowout fractures. So, it isn’t surprising that after decades of extreme physical comedy and an injury list as long as his career—which spans 27 years—Knoxville is finally ready to admit defeat, or at least take a step back just shy of it. “I knew heading into this [the filming of Jackass Forever], that it was my last hurrah with big stunts,” says Knoxville. “You can only take so many chances before one forever catches up with you. I realized that and, amazingly, I’m still walking around. I think I’ve pushed my luck far enough.”

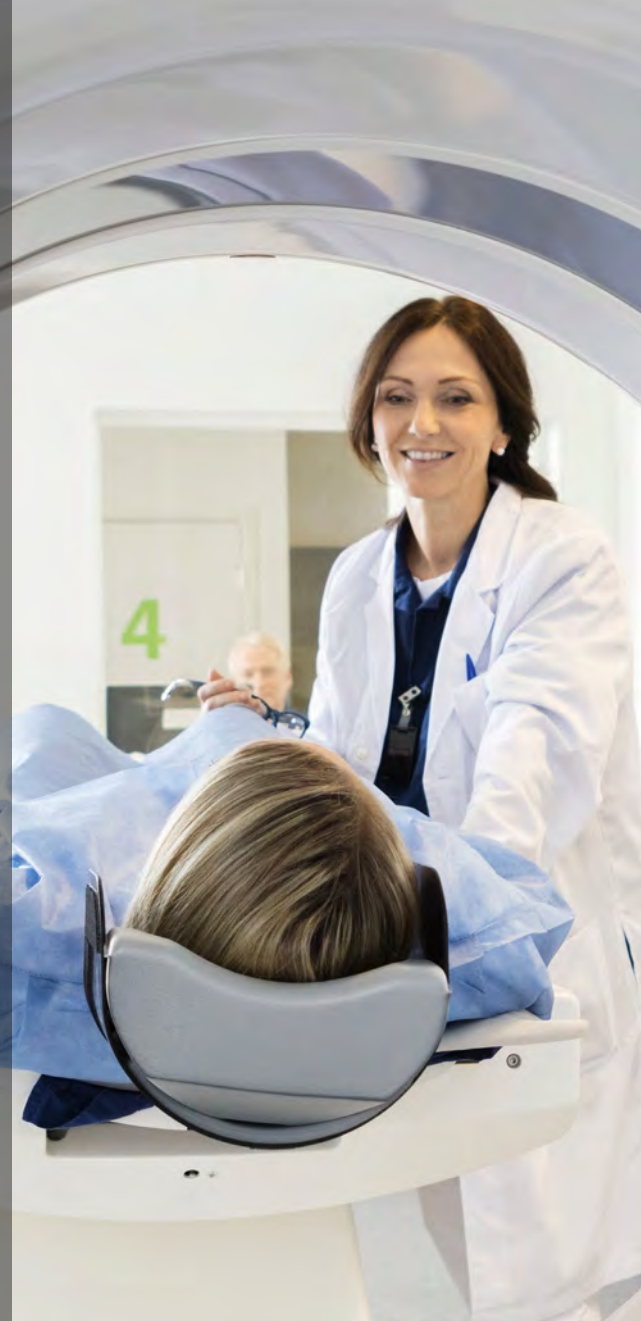
With the next Jackass movie already in the works—Jackass 4.5—only time will tell if Knoxville stays true to his pledge to stay behind the camera. 📺



FDA CLEARED

# OBJECTIVE IMAGING MEETS CLINICAL CORRELATION

CREDIBLE  
DIAGNOSIS OF TBI



**TBI**  
ANALYTICS

[WWW.TBIANALYTICS.ORG](http://WWW.TBIANALYTICS.ORG)  
888 824 5989 | [info@tbianalytics.org](mailto:info@tbianalytics.org)



AMELIA BRUMMEL  
TBI Analytics COO



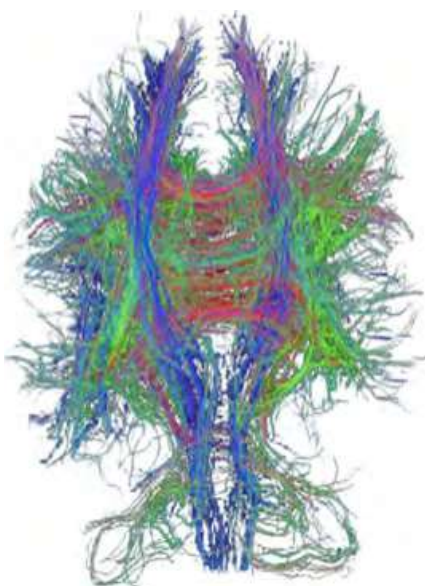
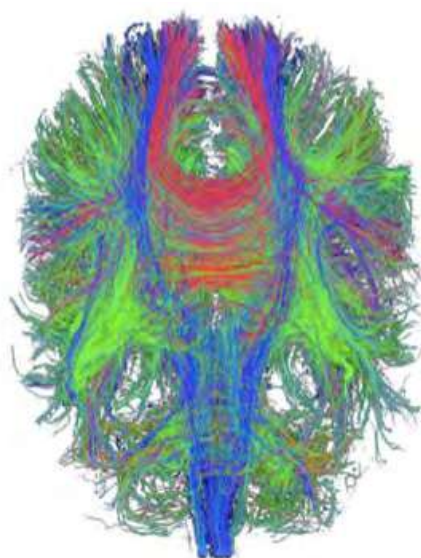
**DR. MICHAEL ROZENFELD, CMO**  
Board-Certified Neu oradiologist



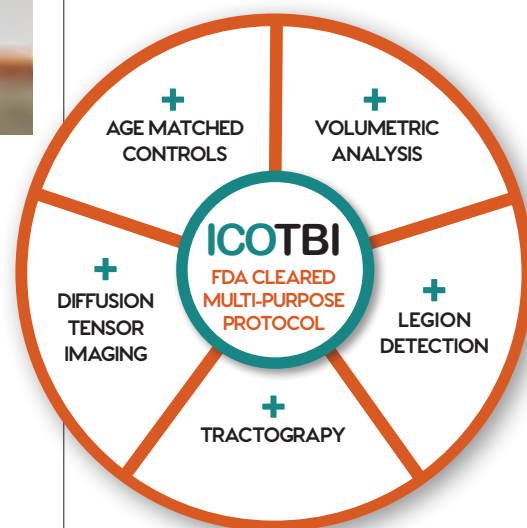
**DR. J.P. CRUM, PHD**  
Licensed Clinical Psychologist Specializing in Neuropsychological Testing and Reporting

**NORMAL ICOTBI**

**ABNORMAL ICOTBI**



**A POSITIVE ICOTBI IS ASYMMETRICAL DUE TO MISSING OR SHEARED FIBER TRACKS.**



ICOTBI combines quantitative FA DTI, tractography, volumetric analysis, advanced legion detection, and standard MRI sequences to provide the full picture of a patient's brain injury. This powerful combination of imaging techniques alone is ground-breaking but TBI Analytics holds ICOTBI to an even higher standard by comparing test results to their extensive proprietary database of age matched controls under the guidance of board-certified neu oradiologists. These objective imaging results are then correlated with clinical evaluations and treatment options.



# Comprehensive Neuropsychological Assessment and Treatment



CogNet is a network of doctors and rehabilitation specialists who specialize in treating individuals who have sustained a mild traumatic brain injury (mTBI) or are experiencing prolonged symptoms from a concussion. Our services help support individuals experiencing a wide range of cognitive deficits to include; decreased memory, poor concentration, decreased problem solving abilities or difficulty organizing and prioritizing daily tasks. These subtle yet debilitating changes represent signs of head trauma and may also indicate early signs of dementia.

Contact us today  
to begin your journey  
back to health.

---

213-459-0869  
[www.cognetr.com](http://www.cognetr.com)



GLOBAL  
FINANCIAL  
PARTNERS

CHAD LUPIA  
PRESIDENT  
clupia@globalfundsu.com

+ MEDICAL AND  
SURGICAL FUNDING

+ CLIENT FUNDING

+ CASE COST FUNDING



LENDING WITH INTEGRITY

833-FUND-4-ME  
(833) 386-3463  
[www.globalfundsu.com](http://www.globalfundsu.com)



# BRAIN TSUNAMI


This newly discovered phenomenon could hold the key to traumatic brain injury recovery.

Neuroscientists in Germany and the US have recently shown that *brain tsunamis*, waves of cell depolarization — massive short-circuits of the neurons — sweep the cortex within ten minutes of cardiac arrest. These waves of spreading depolarization mark the beginning of the end, and trigger a gradual poisoning of neurons. They recorded brain tsunamis not just as people died but also after other critical events, such as a brain hemorrhage. Their findings could have immediate application in emergency centers and critical-care wards.

Dr. Jens Dreier at the Center for Stroke Research Berlin and Dr. Jed Hartings at the University of Cincinnati saw an opportunity to apply these principles to their work in neurocritical care. Their centers monitor the brain activity of patients with brain conditions, such as traumatic brain injury or bleeding after an aneurysm. This neuromonitoring involves putting electrodes either directly onto the surface of the brain or deep into the cerebral cortex. Clinicians can then record electrical activity directly from the cortex.

Patients who were taken off of life-sustaining therapy while neuromonitoring continued as the patient died revealed something striking. “Previously, it was thought that the end occurs when the brain stops its electrical activity and goes silent,” said Hartings. “But it doesn’t. We can show that the brain remains in a viable state for several minutes after this flatline, at which point a wave of depolarization sweep through the cortex. This is referred to as a *brain tsunami*.”

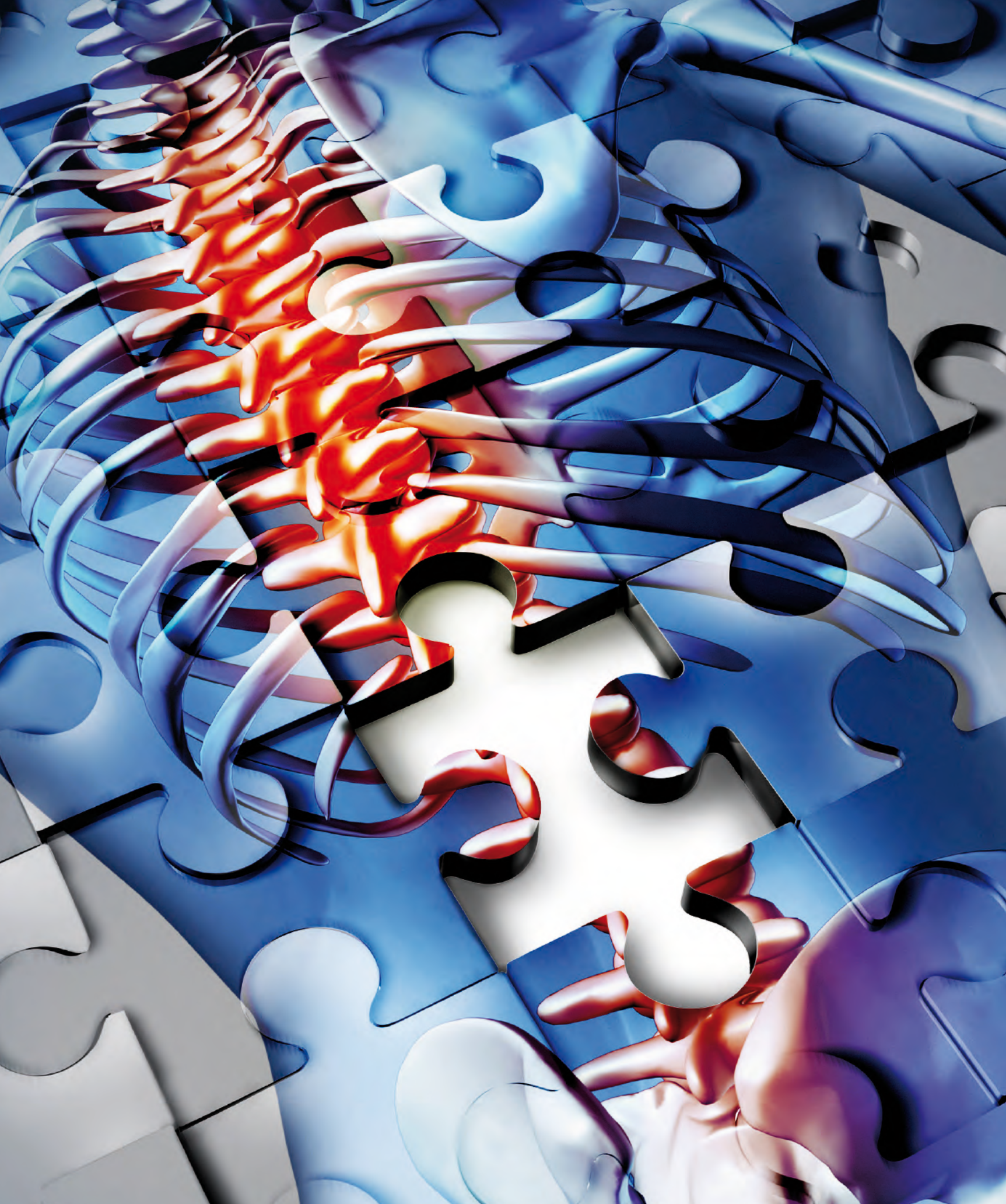
“The spreading depolarization shows that brain cells are dying, and gives a tremendously useful clinical marker for brain damage,” said Dreier. This is not just a curiosity, but something actionable in intensive care.”

By studying the brain at the end of life, these researchers have made the connection between death and spreading depolarization in a very controlled clinical setting with strong data. This may be the first step in discovering other ways in which spreading depolarizations impact the brain and could inform breakthroughs in brain injury research and treatment. 









# THE POLYTRAUMA PUZZLE

Treatment of patients with multiple complex injuries as a result of trauma is challenging — even more so when traumatic brain injury is present.

Polytrauma is a specific medical term that describes the condition of someone who has sustained injuries to multiple body parts and organ systems. For instance, in a car crash, an individual may suffer serious burns over large portions of his or her body in addition to broken bones or a traumatic brain injury (TBI). The critical nature of an injury is evaluated in the U.S. medical community through a scale referred to as the Injury Severity Score (ISS). Polytraumas have scores of 16 or greater on this scale.

## CAUSES OF POLYTRAUMA

Motor vehicle accidents are a major cause of polytrauma among civilians. The high speeds and sudden impacts that occur in many types of car crashes often lead to disastrous outcomes. The U.S. military has used the medical designation of polytrauma to categorize injuries sustained by military personnel during conflicts. Military personnel are subject to some of the most serious threats of polytrauma injuries, including blasts from explosive devices.

Beyond serious motor vehicle accidents and military-related incidents, causes of polytrauma can also include knife wounds, physical altercations, gunshot wounds, fire-related injuries, and falls from elevated heights. Polytrauma often involves a combination of TBI with other debilitating injuries such as serious eye damage, hearing damage, amputations, spinal cord injury, and severe burns. In addition, some individuals experience post-traumatic stress disorder (PTSD). Historically, polytrauma survival rates have been low, however, with advances in medical technology these statistics have greatly improved.

## TREATMENT OF POLYTRAUMA PATIENTS WITH TBI

In medical terms, the presence of TBI in a polytrauma patient is referred to as Polytrauma and Concomitant Traumatic Brain Injury. According to the Journal of Neurosurgery, clinicians face unique challenges from decision-making and





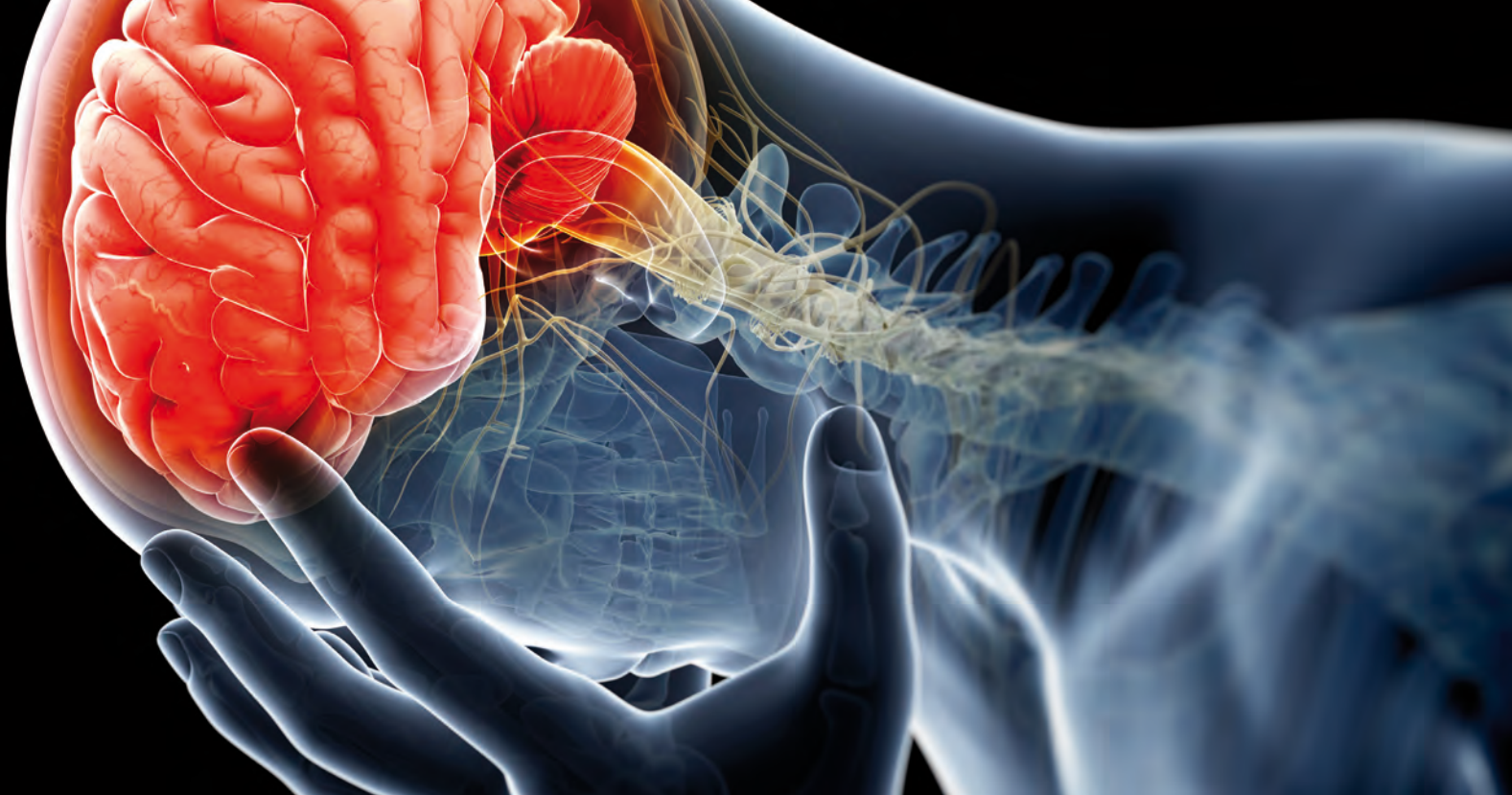
# TRAUMATIC BRAIN INJURY HAS BEEN CITED AS THE MOST COMMON COMPONENT OF POLYTRAUMA.

rehabilitative perspective when it comes to the treatment of these patients. Treatment management is complex and should be systematic, beginning at the scene with timely transport. Early operative interventions are also key.

According to the World Journal of Emergency Surgery, critical trauma care is ever-improving, yet TBI-related mortality rates are rising compared to other causes of death. Managing the acute phase after a severe TBI with polytrauma represents a challenging situation for every trauma team member and often involves the ‘damage control’ approach to sustain life. The challenge with polytrauma and concomitant traumatic brain injury patients is making sure equal emphasis is placed on stabilizing life-sustaining systems and doing everything possible to minimize brain damage.

## **POLYTRAUMA COULD WORSEN BRAIN INJURY**

Primary brain injury results from mechanical injury at the time of the trauma whereas secondary brain injury is caused by the physiologic responses to the initial injury. Post-trauma care, as it relates to traumatic brain injury, is focused on halting or minimizing bleeding or clotting in the brain, among other biochemical processes, all of which result in secondary brain injury. Because polytrauma patients may require multiple damage control procedures, there is a risk of not providing



ample emphasis on brain care. In addition, the presence of hypotension (low blood pressure), hypoxia (low oxygen levels), and fever — all commonly found in polytrauma patients — have been shown to initiate secondary brain damage.

### **TRAUMA NEUROSURGERY**

The trauma neurosurgeon plays a key role in being able to ensure optimal treatment of polytrauma and concomitant TBI patients while minimizing secondary brain damage. Although brain surgery is highly complex and specialized, how it helps TBI patients comes down to decompression. Known as a craniotomy, this surgery relieves pressure on the brain, in turn slowing secondary brain damage. Dating back to Hippocrates, who is documented to have suggested their use in treating TBI, craniotomy revolutionized neurosurgery.

### **CHOOSING THE BEST TRAUMA CENTER**

The best facilities for polytrauma patients to receive care are level one trauma centers. According to the American Trauma Society, A level one trauma center is capable of providing total care for every aspect of injury from prevention through rehabilitation, including surgical intervention. Although a level one trauma center can provide comprehensive treatment to trauma victims, they are not always capable of providing what is known as Simultaneous Multisystem Surgery (SMS) — which allows for different surgical teams to work on a patient simultaneously — the key to optimally treating polytrauma patients with TBI.

For a level one trauma center to provide SMS they must be equipped with a hybrid-emergency room system

(HERS) where diagnostic procedures, such as CT scans, and damage control interventions, such as neurosurgery, can be performed simultaneously without patient transfer. Studies have shown that the HERS approach has been associated with a shorter time to initiate CT scanning, emergency surgery, and fewer unfavorable outcomes in polytrauma patients with and without TBI — ultimately resulting in higher — and more functional — survival rates.

While the ability to perform SMS seems to be straightforward and beneficial, very few centers in the United States are equipped with HERS and have trained staff to perform SMS in the context of TBI complicated by polytrauma. Other countries appear to be ahead of the curve in this area of trauma response. For example, not only are many of Japan's trauma centers equipped with HERS, but they have also developed the Japanese Association for Hybrid Emergency Room Systems to specifically address the needs of specialized HERS trauma teams.

### **FACTORS TO CONSIDER FOR THE BEST OUTCOME**

According to an article published in the National Library of Medicine, the occurrence of TBI in polytrauma patients increases mortality and reduces their quality of life. Studies have shown that the crucial factors for ensuring the best outcomes in these cases involve getting the most appropriate care as quickly as possible. Factors such as the speed in which ambulatory care is on scene and the patient being transported to a level one trauma center — when possible one equipped to administer SMS — can make substantial differences in a patient's recovery. 🚑



## 1000 REASONS FOR

HE



## The Concussion Legacy Foundation celebrates the first 1,000 brain donors studied at the VA-BU-CLF Brain Bank.


The *1,000 Reasons for Hope* report celebrates the first 1,000 brain donors studied at the VA-BU-CLF Brain Bank since 2008 and how they have advanced research on concussions and CTE. Inside you'll find never-before-seen donor demographics, new testimonials from donor families including Dwayne Johnson, and a roadmap for the future of brain trauma research.

This report, created by research collaborators from the VA, Boston University, and the Concussion Legacy Foundation (CLF), explains how the next 1,000 brain donors will answer critical questions that take us closer to preventing, diagnosing, and treating CTE and other long-term consequences of concussion and traumatic brain injury.

"Thanks to our Legacy Donors and their families, as well as our incredible research team, we are closer than ever before to ending CTE. Through tireless research, awareness, and prevention efforts, we continue to pave the way for the eradication of this disease. Our discoveries have already inspired changes in sports that will prevent many future cases of CTE in the next generation of athletes. We are on a journey to cure CTE by 2040. We would not be able to end CTE without the individuals and organizations who support this research through their donations and their advocacy," says Concussion Legacy Foundation CEO Chris Nowinski, Ph.D..



PHOTO COURTESY OF THE VA-BU-CLF BRAIN BANK

The VA-BU-CLF Brain Bank has diagnosed more than 70 percent of the world’s CTE cases, and the evidence suggests CTE is an environmentally-caused disease. But it has been discovered that clinical outcomes vary significantly among individuals, and part of that variability is caused by genetics. Future research will be aimed at having the statistical power to isolate the genes associated with CTE susceptibility and resilience and unlock new targets for therapies. The VA-BU-CLF Brain Bank is on the cusp of diagnosing CTE accurately in the living. As researchers get closer and closer to diagnosing and treating CTE in living people, CTE prevention is becoming more of a focus. The Brain Bank’s next chapter involves recruiting research subjects, especially female athletes and military Veterans to advance knowledge that will help these historically understudied populations. To view the *1,000 Reasons for Hope* report visit [www.concussionfoundation.org/1000reasons](http://www.concussionfoundation.org/1000reasons). 



*"I'm very grateful for the insight the Concussion Legacy Foundation has been able to provide me and my family. Losing my dad without warning was a tough kick in the gut, but one of the saving graces of his passing was coming to understand just how healthy his brain was."*

- DWAYNE JOHNSON



# TRAUMATIC BRAIN INJURY EXPERT



Dr. Fardad Mobin, M.D. is a highly skilled, board-certified neurosurgeon. He has performed over 3,000 cranial and spinal surgeries and is recognized for his exceptional operative skills as well as his excellent patient care. Dr. Mobin is a graduate of the Rensselaer Polytechnic Institute in Troy, New York, holds a medical degree from the University of California Davis School of Medicine, and has completed a prestigious cerebrovascular fellowship at the University of California, Los Angeles. In addition to running his practice, Mobin Neurosurgery, Dr. Mobin serves as an expert medical witness, utilizing his extensive knowledge of neurosurgery to aid victims of trauma in getting the care they need.

Neurosurgery is surgery of the nervous system. It is the medical specialty concerned with the diagnosis and treatment of patients with injury to, or diseases/disorders of the brain, spinal cord and spinal column, and the peripheral nerves throughout the body.

As a neurosurgery expert, Dr. Mobin's task is to illustrate the distinction between the different classifications of TBI and explain how TBI is diagnosed and its impact on the brain function.

One tool that neurosurgeons, Dr. Mobin included, use to do this is the Glasgow Coma Scale (GCS). The GCS is used to help gauge the severity of an acute brain injury and is broken down into three categories — eye opening, verbal response, and motor response — and then again into numerical scores, zero (not testable) through six — each of which is assigned a physical or cognitive task. A patient's ability or inability to perform these tasks earns them a particular score. The scores are then compiled to determine if the severity of patient's potential brain injury.

"As a neurosurgeon, the GCS has been part of my training from the beginning," says Dr. Mobin. "It's a wonderful tool for acute analysis, triage, and treatment."

While the GCS is the go-to method in the triage stage of determining whether or not a patient has sustained a brain injury, it is rather a crude scale to forecast the long-term effects of the brain injury. "This is where we get into a more detailed analysis of the injury," says Dr. Mobin. "Structural imaging is the next step." Structural imaging techniques include angiography, CT, Doppler and MRI, however, in the case of a TBI, MRIs may not be an initial option due to the potential instability of the patient.

"Intracranial hemorrhage is something we look for in the acute setting which is well detected by CT scanning," says Dr. Mobin. "If this is identified, patients will undergo serial neurological examinations and as indicated serial CT scans to monitor patients at regular intervals and to detect the 'blossoming' of contusions — when a contusion becomes progressively larger," says Dr. Mobin.

After the triage phase and initial diagnosis, brain injury patients may receive follow-up magnetic resonance imaging (MRI) and/or computed tomography (CT) testing for physicians to assess the progression of the brain injury. This typically happens within the first few months after diagnosis.

At and beyond six-month post-injury, more detailed imaging, such as volumetric analysis and diffusion tensor imaging (DTI) tractography, is employed. DTI tractography is an MRI technique that measures the rate of water diffusion between brain cells and can help clinicians determine if there is any axonal shearing — tearing of the brain's long connecting nerve fibers (axons) caused by the brain shuttering and rotating inside of the skull.

"The six-month mark is significant. Symptoms will either have disappeared or will continue to worsen," says Dr. Mobin. "Patients who are still experiencing cognitive or psychological disturbances at this point are typically diagnosed with a mild to moderate traumatic brain injury. Individuals diagnosed with mild traumatic brain injury (mTBI) often fall through the cracks because many clinicians are hesitant to treat these patients due to the assumption that mTBI symptoms should subside within six months, and this isn't always the case."

"The brain is the most complex structure known to man and neuroscience is ever evolving," says Dr. Mobin. "Although we [physicians] have many sophisticated tools at our disposal, we still don't have all the answers. My job is to design solutions drawing on these tools that will best help each individual patient."

**For more information about Mobin Neurosurgery visit them online at [www.spinesurgeonla.com](http://www.spinesurgeonla.com) or call 310-829-5888. 📞**

# BILLING EXPERT



Andrew S. Morris, DC, is a medical billing expert, businessman, and Chiropractor licensed in California. Dr. Morris has practiced chiropractic for 23 years while also working on the administrative side of medicine, creating policies and procedures for medical billing and coding.

Backed by his extensive medical, administrative, and billing knowledge, Dr. Morris founded Acclaim Recovery Management (ARM) — a medical billing, coding, and recovery company — in 2014.

Medical billing and medical coding are two distinct but interconnected parts of the healthcare system. Medical coding, which is typically the first part of the billing process, involves applying particular codes to particular treatments and medical billing involves submitting claims to insurance companies for payment which outline the assignment of these codes, providing legitimacy to the claim.

Dr. Morris explains that the Current Procedural Terminology (CPT) coding system was designed to provide a uniform data set that could be used to describe medical, surgical, and diagnostic services rendered to patients to determine reimbursement to a provider or medical facility. CPT codes — which consist of five alphanumeric digits — are published by the American Medical Association and there are approximately 10,000 of them currently in use.

Part of Dr. Morris' work with ARM involves his role as a medical billing expert witness providing unbiased testimony in a court of law, helping a jury to understand the complicated economic healthcare marketplace. In this role, Dr. Morris draws on far more than his extensive knowledge of the CPT coding system — in fact, CPT code assignment is only the foundation of his expertise.

“The end goal is to unbiasedly determine the reasonable value of medical services rendered,” says Dr. Morris. “In order to do that, you must provide a past medical billing audit analysis correlated with the patient’s medical records, which ensures that the providers have used the appropriate standards when billing for their services.” To accomplish this Dr. Morris uses a methodology called usual, customary, and reasonable (UCR) which is a widely accepted method of generating healthcare prices. “This methodology compares a provider’s charge to similarly situated providers performing similar services in the same community by zip code,” says Dr. Morris.

Reasonable value is defined as a price that a willing owner would sell and a willing purchaser would buy, but neither being under any obligation to do so.

“The final step in determining reasonable value is to place these audit findings into the context of the particular healthcare market that the medical services were rendered in,” says Dr. Morris. “Once all of these steps are completed, I can present my expert testimony as to the value of the medical services in question.”

Dr. Morris testifies in cases involving treatments and procedures for many types of injuries — the shortlist includes orthopedic extremity and spine, burns, fractures, and lacerations — but there is one diagnosis that poses more of a challenge in the courtroom than most others; traumatic brain injury (TBI).

Medical coding for a TBI can be complex due to the multiple treatments a patient may undergo. “Addressing the symptoms of a TBI requires a multidimensional approach,” says Dr. Morris. “A person may need neurosurgical intervention, participate in outpatient neurocognitive rehabilitation, receive occipital nerve stimulation, or any number of other treatments prescribed for TBI, making treatment plan analysis complicated because each intervention can be coded in multiple ways.” ARM works on many TBI cases employing an abundance of experience to code them effectively.

**For more information about Acclaim Recovery Management visit them online at [acclaimrm.com](http://acclaimrm.com). 📄**



**TO BE VACCINATED**

**OR**

**NOT**

**TO BE VACCINATED**

# Debates about vaccination go back as far as 1796 when the world's first vaccination was performed. Now, COVID-19 vaccines have renewed the conversation with a focus on neurological complications.

COVID-19 has been a presence in all of our lives for more than two years — and for many, so has the vaccination debate. Since the U.S. Food and Drug Administration (FDA) authorized the first COVID-19 vaccine, more than one hundred million people in the U.S. have been vaccinated. While the mainstream medical community has promoted COVID-19 vaccination — with high profile organizations like Johns Hopkins Medicine among others expressing their views that all authorized COVID-19 vaccines are highly effective at preventing serious disease, hospitalization and death from COVID-19 — there are still many who question not only the safety of COVID vaccines, but the safety of vaccines in general.

## A SHORT HISTORY OF VACCINES

The first vaccines were based on using weaker strains of viruses to generate immunity, while not giving the recipient of the vaccine the full-blown illness or, preferably, any symptoms of the disease at all. In May 1796, a British physician named Edward Jenner tested his hypothesis that direct inoculation of a person cowpox, which is not deadly, would render that person immune to smallpox, which was.

Jenner based this theory on his observations of milkmaids. Those milkmaids who had acquired cowpox through their contact with cows were immune to smallpox even when exposed multiple times to the deadly disease. Jenner's detailed descriptions of his experiments convinced his colleagues and the authorities that inoculation with cowpox — which he called vaccination —

was a viable way to protect people from smallpox.

Another important figure in the history of vaccination was Louis Pasteur. Pasteur stepped onto the world stage with a famous experiment borne out of necessity. In July 1885, a rabid dog attacked a boy named Joseph Meister. At a time when this would have been a death sentence from rabies, Joseph's mother asked for help from Louis Pasteur, who she heard was working on a cure for rabies. Pasteur inoculated the child with 13 increasingly strong doses of an experimental rabies vaccine. At the end of the treatment, the child did not develop rabies, and a new era of vaccination began.

## EARLY ANTI-VACCINATIONISM

The beginnings of anti-vaccinationism were rooted in the idea of personal rights rather than health risks. In the early nineteenth century, smallpox vaccination in Europe became mandatory and societies of anti-vaccinationists formed to protest what they saw as infringement of individual liberty. Anti-vaccinationism spread to the United States later that same century, largely by visitors and immigrants from Europe, and it has been with us ever since.

## GENERAL VACCINE CONCERNS

Vaccines, though designed to protect from disease, have been shown to cause side effects that range from mild-to-serious. According to the Centers for Disease Control and Prevention (CDC), the most common side effects of vaccination are soreness, swelling or redness at the injection site. Some vaccines





Literature dating back to the early 1800's showing public concern about vaccination.

are associated with fever, rash and achiness. Serious side effects from vaccination appear to be rare, but may include life-threatening allergic reaction, seizure and even death. However, according to the CDC, when considered on a population basis, the incidence of serious complications of vaccination is minute when compared with the outcome of natural infection.

In order to understand the range of possible vaccination side effects, it is useful to compare a vaccine with relatively few associated side effects, such as the Haemophilus influenza type B vaccine, with a vaccine known to have many potential side effects, such as the smallpox vaccine, which is still used in a military context today.

In the case of Haemophilus influenza type B, side effects may include redness, warmth or swelling at the injection site and elevated fever with no serious side effects having been reported. In contrast, with the smallpox vaccine, risks include encephalitis (inflammation of the brain which can lead to permanent brain damage), severe infection beginning at the vaccination site and even death — for every million people vaccinated for smallpox, up to 52 people could experience life threatening side effects.

### THE CASE FOR VACCINATION

Even with anti-vaccine sentiment and vaccine concerns, the origins of vaccines do seem to make a great case for themselves, and modern science backs this up. According to the National

Foundation for Infectious Diseases, The US has a robust approval process to ensure that all licensed vaccines are safe. They say that potential side effects associated with vaccines are uncommon and much less severe than the diseases they prevent. According to the CDC, getting all recommended vaccinations is a powerful step in taking charge of your health. They say that when given as directed, FDA-authorized vaccines can prevent severe disease and save lives.

### WHEN HARM IS CAUSED BY VACCINES

When vaccines first began to be widely used, people who experienced serious side effects from vaccination had little recourse to compensation from manufacturers, physicians or the government. This was particularly a problem when vaccine production techniques were in their infancy, and contamination of vaccines occasionally occurred during or after manufacture. Since the passage in 1902 of the U.S. Biologics Control Act, which initiated the regulation of vaccines, such problems with negligence in manufacturing have greatly declined.

As product liability law evolved during the 20th century, it eventually provided an avenue for compensation for individuals harmed by vaccines — they could sue vaccine manufacturers or they could sue physicians who administered vaccines.

To help keep track of adverse reactions to vaccinations, the CDC and the FDA established The Vaccine Adverse Event

Reporting System (VAERS) in 1990. According to the CDC, VAERS is used “to detect possible signals of adverse events associated with vaccines.” About 30,000 events are reported each year to VAERS. Between 10% and 15% of these reports describe serious medical events that lead to hospitalization, life-threatening illness, disability or death.

### COVID VACCINES

According to the National Foundation for Infectious Diseases, as of April 15, 2022, 19 vaccines have been authorized for emergency use and 12 given full approval for use. In 2020, the FDA authorized two mRNA COVID vaccines for emergency use. In 2021, the FDA approved the Pfizer-BioNTech COVID-19 vaccine for people ages 16 and older, and following that, the Pfizer-BioNTech vaccine for children ages 5 through 15. In 2022, the FDA approved the Moderna COVID-19 vaccine, now called Spikevax, for people age 18 and older. Researchers continue to study and develop several other COVID-19 vaccines. It’s estimated that COVID-19 vaccination results in a low risk of another infection with a similar variant for at least six months.

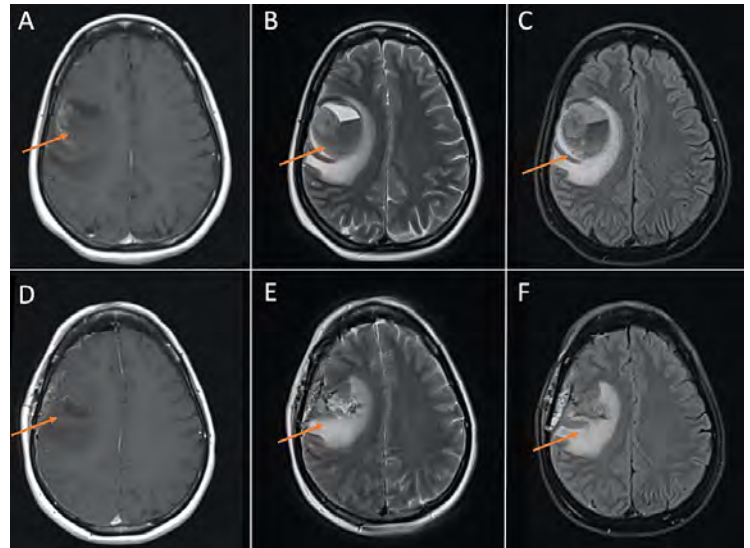
### HOW COVID VACCINES WORK

According to the CDC, COVID-19 vaccines work with your immune system so your body will be ready to fight the coronavirus if you are exposed to it — including coronavirus variants. In addition, COVID-19 vaccination might offer more protection than becoming infected with COVID-19. A recent study has shown that unvaccinated people who already had COVID-19 are more than twice as likely as fully vaccinated people to be reinfected with COVID-19. Recent research also suggests that people who got COVID-19 in 2020 and then received mRNA vaccines produce very high levels of antibodies that are likely effective against current and possibly future variants. Some scientists call this hybrid immunity however further research is needed to confirm this phenomenon.

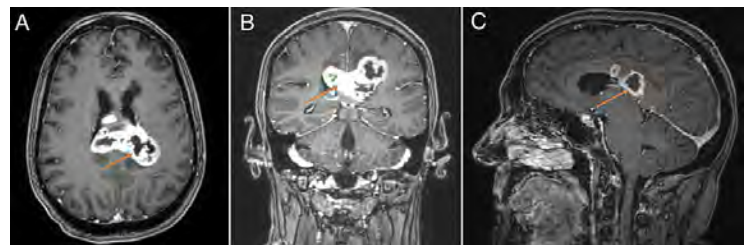
### DO COVID VACCINES EFFECT THE BRAIN?

Though cases of neurologic symptoms related to COVID vaccination are uncommon, they are not unheard of. Two cases, published in the *Cureus Journal of Medical Science*, show that neurological inflammatory responses and the presence of neuro-oncologic lesions are possible after COVID vaccination. The journal describes two patients that presented with neurologic deficits that were not present prior to being vaccinated.

One of the cases presented in the article was of a 58-year-old woman who experienced high-grade fevers, slurred speech and facial droop approximately two weeks following her second dose of a COVID-19 vaccine. According to the journal, the patient’s symptoms were attributed to post-vaccination Bell’s Palsy. Her fevers resolved over the next 24-48 hours as is typical with post-vaccination symptoms, however facial weakness persisted until approximately two weeks later when she developed acute



A contrast-enhanced MRI shows a large hematoma in the right frontal lobe of the brain of a 58-year-old woman, post COVID vaccination.



A contrast-enhanced MRI shows a large abnormal mass in the brain of a 52-year-old woman, post COVID vaccination.

worsening of her facial droop with associated slurred speech, drooling as well as left arm and leg weakness. A contrast-enhanced MRI of the brain demonstrated a large hematoma in the right frontal lobe. The patient underwent surgery to remove the hematoma.

The second case presented in the journal was of a 52-year-old woman who developed severe headache and neck stiffness associated with intermittent high-grade fevers four days after her first dose of a COVID-19 vaccine. Contrast-enhanced MRI scans showed an abnormal mass on her brain.

### RISK VS. REWARD

Despite this evidence of COVID vaccines effecting the brain, studies have shown that adverse events after COVID vaccination are rare and many COVID vaccines have proven over 90% effective with no safety threat. Additionally, other studies have shown that brain health may be more at risk after COVID infection than after vaccination. Whether or not to receive a COVID-19 vaccination is a personal decision, however, it is important to be aware of the potential adverse effects. **1**





## A SYNERGISTIC APPROACH TO CHRONIC HEADACHE PAIN

Dr. Benjamin Taimoorazy, MD is one of a kind. He is the only pain management anesthesiologist in the state of California who is also board certified and sub-specialized in the field of headache medicine by the United Council for Neurologic Subspecialties (UCNS). And his individuality extends beyond the state of California given that he is one of only seven triple board-certified interventional pain management anesthesiologists in North America specializing in pain medicine, headache medicine, and anesthesiology simultaneously.

Taimoorazy's multi-faceted experience gives him a diverse toolbox of interventions to treat his patients. "I am equipped to assess patients on a completely different level," says Taimoorazy. "Having knowledge in pain and headache medicine as well as anesthesiology is particularly valuable when I am treating patients who have experienced trauma such as a major head or neck injury resulting in whiplash or traumatic brain injury."


According to Taimoorazy, these patients require a much higher level of understanding due to the multiple complex issues that can result from physical trauma. Beverly Hills Migraine and Pain Management Institute offers many comprehensive therapeutic options for these chronically painful disorders which can include severe back and neck pain, neuropathy, and headaches.

Steroid injections and nerve blocks are very effective in mitigating pain for many patients and Taimoorazy is particularly well qualified to perform these procedures. "Having extensive knowledge of anatomy gives me the in-depth understanding of the body necessary to locate the source of the pain," he says. "It is possible to very safely deactivate the nerves that are causing the discomfort," Taimoorazy explains. "In the past patients would require major invasive surgery to accomplish the same results. We no longer need to distort the anatomy of a patient to relieve their pain. Instead, we can treat them successfully in an outpatient setting." After treatment, patients resume their normal activity level very quickly in comparison to surgical interventions which require weeks and sometimes months of recovery. "Patients receiving these treatments leave our office and go about their day immediately," says Taimoorazy.

Patients suffering from headaches will not only find value in Taimoorazy's cutting-edge, highly advanced therapeutic interventional procedures — they will also benefit from his very own groundbreaking migraine and headache nutritional supplement, MiGuard. Formulated with compounds that are proven effective in relieving headache pain including feverfew, vitamin B2, ginger, alpha-lipoic acid, magnesium, and coenzyme Q10, this all-natural, vegan, organic, and non-GMO supplement helps many patients manage post-concussive or TBI headache pain. "Many of my patients who were suffering from headaches did not want to take prescription medications due to the side effects," says Taimoorazy. "I saw a need for an all-natural product to help them."

The compounds in MiGuard have been studied extensively for their effectiveness in alleviating headache pain resulting in a robust amount of research literature including a double-blind study conducted by the American Academy of Neurology. "The results of these studies were astonishingly good," says Taimoorazy. "MiGuard's formulation is backed by this research and the synergistic effects of these natural compounds." MiGuard can also have a positive effect on overall brain health making it a great addition to your vitamin regimen even if headaches are not a concern.

Beverly Hills Migraine and Pain Management Institute also offers ketamine infusions. Ketamine is an FDA-approved anesthetic that's been widely used around the world for more than five decades. While ketamine isn't considered a first-line therapy for chronic pain, it can be used off-label to treat severe cases that have not responded to conventional medication or therapies. Ketamine infusions can work very quickly — often within hours — and can also help to treat symptoms of depression and PTSD which are often present in patients who have a traumatic brain injury. Scientists have been studying this compound's fast-acting antidepressant properties for years. "The ketamine infusion treatment only takes an hour to administer and the patient begins feeling the effects quickly," says Taimoorazy. "It's a very simple and effective treatment."

Beverly Hills Migraine and Pain Management Institute aims to decrease the subjective pain experience, increase the general level of activity, decrease drug consumption, and help patients return to employment and optimal quality of life. For more information visit them online at [www.bhmigraineandpain.com](http://www.bhmigraineandpain.com) or call 424-302-0289. 

## NEUROPSYCHIATRY EXPERT

# ROD AMIRI, MD

BOARD-CERTIFIED PSYCHIATRIST AND  
ADDICTION MEDICINE SPECIALIST



---

Rod Amiri, MD, is a board-certified psychiatrist and addiction medicine specialist in Beverly Hills, California. He serves as executive director of Connect Wellness and personally leads their renowned intensive outpatient program to ensure the highest level of success for every patient.

Born in Ahvaz, Iran, Dr. Amiri escaped the war-torn country with the help of his family and immigrated to the United States at age 13. He excelled in high school and college, graduating at the top of his class. He earned his medical degree from St. George's University in True Blue, Grenada, before going on to complete his residency at Cedars-Sinai Medical Center in Los Angeles.

Dr. Amiri served as chief resident at Cedars-Sinai, where he mastered intensive psychotherapy skills and was honored with several awards, scholarships, and fellowships from organizations including the California Society of Addiction Medicine and the American Psychiatric Association. He also gained teaching experience as a professor of anatomy and physiology at the American University of Complementary Medicine in Los Angeles.

In addition to helping men and women cope with mental health disorders like depression, bipolar disorder, and post-traumatic stress disorder, Dr. Amiri has a private practice in Beverly Hills, California, and is a consulting psychiatrist.

---

FOR MORE INFORMATION OR  
TO SCHEDULE AN APPOINTMENT:

(424) 226-7271

9301 Wilshire Blvd., Ste. 600  
Beverly Hills, CA 90210





# Creative Healing

Finding hope through art therapy  
after traumatic brain injury.







Each year, an estimated 1.7 million people in the United States (US) sustain a brain injury. Many treatments are being studied to help these patients to recover and regain their normal lives — art therapy is one.

Art therapy is a distinct discipline that incorporates creative methods of expression through visual art media. Art therapy, as a creative arts therapy profession, originated in the fields of art and psychotherapy and may vary in definition. This modality aids in the recovery process by allowing the patient to do something they enjoy while working on various functional skills such as fine motor skills, gross motor skills, standing tolerance, endurance, communication, expression of feelings, relaxation, socialization, memory, and problem-solving skills.

In the inpatient setting, art therapy can be used daily with both pediatric and adult patients. This form of treatment allows patients to be creative while simultaneously motivating them. The format for this type of therapy can be straightforward, for example, drawing and painting, or the approach can be much more creative. Take for example a pediatric patient with traumatic brain injury who was very interested in coloring and painting. To help with her walking and coordination, her therapist painted her feet and had her walk throughout the facility. This allowed the patient and her family to see the progress she made through the footprints she created. She was allowed to express herself daily by choosing the colors for her footprints and was motivated to continue walking more each day.



Art therapy is also being explored as a form of complementary and integrative care for military veterans affected by trauma and injuries in the line of duty including traumatic brain injury (TBI) and post-traumatic stress disorder (PTSD).

The self-soothing qualities of making art can most certainly aid in TBI recovery. Art therapy offers many psychological and cognitive benefits for patients after a TBI and also helps improve mood, problem-solving skills, attention, and coordination. Most importantly, making art helps patients find a healthy outlet for their emotions, and rebuild their sense of self, something few other therapies can offer after traumatic brain injury. **1**





# BHOMFS

BEVERLY HILLS ORAL MAXILLOFACIAL SURGERY & DENTAL IMPLANTS



## HELPING PATIENTS IN THEIR TIME OF NEED

Moris Aynechi, DMD, MD, a board-certified oral and maxillofacial surgeon, began studying for a career in dentistry and soon discovered that he wanted to diversify. “Once you’re in dental school you are exposed to many different specialties,” says Dr. Aynechi. “I shadowed many types of specialists during my time in dental school and was immediately drawn to oral & maxillofacial surgery.” Pursuing this dual specialty meant that Dr. Aynechi was in for a challenging and competitive journey, one that he has mastered. In fact, he has taken the specialty by storm with the creation of BHOMFS, serving the residents of southern California.

Dr. Aynechi has experience treating a variety of cases, ranging from very mild to severe. His extensive training has given him the knowledge and expertise to treat many different types of injuries and health conditions. Dr. Aynechi works one on one with each of his patients to create an individualized treatment plan that addresses their medical challenges in a personal way.

Receiving his Dental Medical Doctor (DMD) degree from the University of Pittsburgh School of Dental Medicine, Dr. Aynechi then completed a year-long oral and maxillofacial surgery internship at the University of Maryland at Baltimore. Dr. Aynechi also received his medical degree (MD) from Drexel University

College of Medicine while completing his two year general surgery certificate and oral & maxillofacial surgery residency at the Allegheny General Hospital in Pittsburgh, Pennsylvania. Returning to California, he worked at several medical facilities including Cedars-Sinai Medical Center and St. John’s Health Center.

Dental and facial issues — both structural and cosmetic — resulting from trauma are among Dr. Aynechi’s specialties. These injuries are often accompanied by a traumatic brain injury (TBI), which can complicate treatment. “Many patients with a TBI experience Temporomandibular Joint (TMJ) Disorders,” says Dr. Aynechi. “They will have muscle spasms and post-traumatic clenching and grinding.” TMJ disorders are conditions affecting the jaw joints and surrounding muscles and ligaments.

Dr. Aynechi explains that the body translates the stress from traumatic episodes into the muscles surrounding the temporomandibular joints (the joints connecting the jaw bone to the skull), causing clenching and grinding which releases some of the tension on the brain resulting from the trauma. This causes issues in the jaws, especially if a patient has a preexisting TMJ disorder.

If left untreated, trauma-related TMJ disorders can create more serious issues. Consistent pressure on the temporomandibular joints can eventually cause displacement of the jaw resulting in pain, swelling and limited mobility. In these cases, the teeth will also suffer. “Eventually you will see micro and macro fractures [in the teeth] which can lead to tooth loss,” says Dr. Aynechi. As teeth are lost, the surface area absorbing the pressure [from the TMJ disorder] decreases leaving the remaining teeth to take on more and more pressure until eventually all of the teeth become compromised.

Dr. Aynechi has the expertise to treat not only the underlying TMJ disorder but any resulting problems. “In some cases, we use injections to stop the muscle spasms, restore function, and decrease pain,” he says. “We always exhaust minimally invasive treatments before resorting to surgical interventions.” One of these minimally invasive approaches involves creating an orthotic appliance that is designed to protect the teeth and the TMJs from these deleterious forces. Also called a bite splint, it’s an acrylic device that helps relax and balance the jaw joints and muscles. Addition of botulinum (Botox) injections does significantly reduce the spasms attributed by the TBI injuries as well.

Dr. Aynechi also helps individuals with facial deformities resulting from trauma. “Patients who have suffered facial injuries in conjunction with a TBI often delay addressing the fractures due to more immediate, life-threatening concerns,” says Dr. Aynechi. “If fractured facial bones are allowed to heal before they can be returned to their natural position, correcting the resulting deformity and misalignment becomes very difficult.” In cases like this BHOMFS can create custom made titanium facial implants which augment deficient parts of the facial structure.

BHOMFS offers full scope oral & maxillofacial surgery services including bone grafting, soft tissue grafting, cosmetic surgery, dental implants and Botox® for TMJ to help their patients. “I love what I do,” says Dr. Aynechi. “Helping people in their time of need is very rewarding.”

For more information about BHOMFS visit them online at [www.bhomfs.com](http://www.bhomfs.com) or call 310-275-2200. 





Left: Allure surgery center  
Above, top to bottom:  
Orthognathic/jaw surgery,  
facial trauma, dental implant,  
TMJ botulinum toxin injections





# BODY DYSMORPHIA

## AND TRAUMATIC BRAIN INJURY

Frontal lobe head trauma may cause changes in how patients perceive their appearance.

According to John Hopkins Medicine, Body Dysmorphic Disorder (BDD) is a mental illness that causes a person to be obsessively focused on a perceived flaw in their appearance. A person with BDD may be so preoccupied with the appearance of their body that they cannot lead a normal life and may be overcome with feelings of self-hate and dissatisfaction. They may spend an excessive amount of time each day worrying about how they look, so much so that they neglect their daily responsibilities. Suicidal thoughts may also be a symptom. Some behaviors that may accompany this disorder include a person constantly checking themselves in the mirror, avoiding social activities

have shown that individuals with BDD have deficiencies in this area. In one study of verbal and nonverbal memory — including visual organization strategies — subjects were asked to copy and recall a complicated figure drawing. The BDD group recalled more specific parts of the drawing instead of the overall structure, which may reflect poor organizational strategies marked by an imbalance in local (detail) and global information processing. Another study using the same test found impaired copying and recall in individuals with BDD. There was also evidence of impaired visual working memory as well as auditory, verbal and logical memory.

---

*“THERE IS NO QUESTION THAT PHYSICAL DAMAGE TO THE BRAIN CAN CAUSE COGNITIVE, EMOTIONAL, AND BEHAVIORAL ISSUES. RESEARCH HAS SHOWN THAT THE SPECIFIC AREA OF THE BRAIN AFFECTED BY TBI TRANSLATES DIRECTLY TO THE POTENTIAL SIDE EFFECTS A PATIENT MAY EXPERIENCE.”*

*- Dr. Rod Amiri, MD, Neuropsychiatrist*

---

and even having cosmetic surgery to correct perceived flaws

New research has started to identify abnormal areas and connections in the brain in hopes of developing biomarkers or brain correlates that can help identify those at risk for developing BDD, and medical research is beginning to make connections between the disorder and frontal lobe brain damage.

Trauma or injury to the frontal lobe of the brain can cause a wide range of problems and changes to your personality due to the frontal lobe's role in shaping social behavior and personal characteristics. It controls things such as personality, decision making, motivation and voluntary movements.

The frontal lobe is also responsible for memory, and studies

Individuals with BDD also tend to do poorly in tasks related to decision-making, specifically those involving planning, inhibition or organization, pointing again to the frontal lobe. One study found that compared to healthy controls, those with BDD made more errors on a search task, demonstrating deficits in working memory. They also were slower on a task measuring planning ability and exhibited higher risk-taking behavior in a decision-making experiment.

Based on these studies, the connection between frontal lobe abnormality and BDD is clear. However, because of the complexity of the disorder, future research is necessary to understand the exact combination of factors that lead to BDD. 📖





# INJURY LIEN EXPERTS

MEDICAL NETWORK SPECIALISTS



## A COMMITMENT TO QUALITY CARE



At Injury Lien Experts our mission is to help those who have suffered injuries as a result of an accident obtain the best care as quickly as possible from an appropriate medical specialist while having adequate legal representation. We align ourselves with the top medical and legal professionals across Southern California to bring an array of specialties to our clients. From chiropractic care, orthopedics, and pain management to the best attorneys, we ensure that patients get the care and representation they deserve.

Founder Fiona Eiter, Munich Germany's Passold-Weissauer School of Business graduate, has had great success building an expansive network of doctors and attorneys across Southern California. Her incredible networking skills have helped her develop the Injury Lien Experts (ILE) brand which is built on compassion and integrity.

**LET US BECOME YOUR ALLY ON THE JOURNEY BACK TO HEALTH.**

[www.injurylienexperts.com](http://www.injurylienexperts.com) | 760.324.3900 | [info@injurylienexperts.com](mailto:info@injurylienexperts.com)

---

**PRACTICE AREAS**

**Class Actions/Mass Torts**

**Securities Litigation**

**Business Litigation**

---

# Good | Gustafson | Aumais

LOS ANGELES



Christopher T. Aumais's resolve and integrity have helped him pursue justice for his clients, including many who have suffered enormous physical and traumatic injuries. His sincerity and even-handedness have allowed him to reach verdicts for victims of financial fraud and negligence in excess of several millions of dollars.

**Contact: J. Ryan Gustafson**  
**jrg@ggallp.com | 310.374.4773**

**[www.ggallp.com](http://www.ggallp.com)**





# THE COGNITIVE COST OF WAR

The tragedy that warfare leaves in its wake is not limited to the visible — many have been left to cope with the silent destruction of traumatic brain injury.





## *CONFLICT LEAVES TROOPS, CHILDREN, THE ELDERLY AND ANYONE ELSE IN IT'S PATH VULNERABLE TO TRAUMATIC BRAIN INJURY.*

War ravages lives across borders and cultures and within military ranks. The physical casualties [of war] are front and center, but the less talked about and equally debilitating occurrences of traumatic brain injury (TBI) are the silent wounds effecting millions globally — wounds which often goes untreated. In a conflict setting, TBI is commonly caused by blasts and leaves service members and civilians alike to grapple with life-altering cognitive difficulties, sometimes without adequate medical care to support recovery. Though the problem is more prevalent than the help, there are many agencies and organizations dedicated to assisting these victims of war. The Office of the UN High Commissioner for Human Rights (OHCHR), the UN Assistance Mission (UNAMA), the United Nations Children's Fund (UNICEF), and others, are dedicated to shedding light on the problem and providing solutions.

### **SERVICE MEMBERS AND TBI**

According to the Joint Theater Trauma Registry, compiled by the U.S. Army Institute of Surgical Research, 22 percent of soldiers wounded in the U.S. war in Afghanistan had injuries

to the head, face or neck. This percentage can serve as a rough estimate of the fraction who have TBI, according to Deborah L. Warden, a neurologist and psychiatrist at Walter Reed Army Medical Center who is the national director of the Defense and Veterans Brain Injury Center (DVBIC). Warden said the true proportion is probably higher, since some cases of closed brain injury are not diagnosed promptly.

In the Vietnam War, by contrast, 12 to 14 percent of all combat casualties had a brain injury, and an additional 2 to 4 percent had a brain injury plus a lethal wound to the chest or abdomen, according to Ronald Bellamy, former editor of the Textbooks of Military Medicine, published by the Office of the Surgeon General of the U.S. Army. Bellamy said that because mortality from brain injuries among U.S. combatants in Vietnam was 75 percent or greater, soldiers with brain injuries made up only a small fraction of the casualties treated in hospitals.

Kevlar body armor and helmets are one reason for the high proportion of TBIs among soldiers wounded in more current conflicts. They work by shielding the wearer from bullets and shrapnel and have improved overall survival rates. Kevlar



helmets have reduced the frequency of penetrating head injuries. However, the helmets cannot completely protect the face, head and neck — nor do they prevent the kind of closed brain injuries often produced by blasts. Most brain injuries in war zones are caused by improvised explosive devices (IEDs), and closed brain injuries outnumber penetrating ones among patients seen at Walter Reed, where thousands of patients with TBI are treated. All admitted patients who have been exposed to a blast are routinely evaluated for brain injury — 59 percent of them have been given a diagnosis of TBI, according to Warden. Of these injuries, 56 percent are considered moderate or severe, and 44 percent are mild.

A blast creates a sudden increase in air pressure by heating and accelerating air molecules and, immediately thereafter, a sudden decrease in pressure that produces intense wind. These rapid pressure shifts can injure the brain directly, producing concussion or contusion. Air emboli — a blockage of blood supply caused by air bubbles — can also travel to the brain, causing the death of brain tissue. When service members have serious brain injuries, they receive immediate care on the battlefield and are then transported to military combat support hospitals, where they undergo brain imaging and are treated by neurosurgeons. Treatment may include the removal of foreign bodies, control of bleeding or craniectomy — which relieves pressure from swelling.

Soldiers with TBI often have symptoms affecting several areas of brain function. Headaches, sleep disturbances and sensitivity to light and noise are common. Cognitive changes, diagnosed on mental-status examination or through neuropsychological testing, may include disturbances in attention, memory or language, as well as delayed reaction time during problem solving. Often, the most troubling symptoms are behavioral ones — mood changes, depression, anxiety, impulsiveness, emotional outbursts or inappropriate laughter. Some symptoms of TBI overlap with those of post-traumatic stress disorder, and many effected in the military sector have both conditions.

The good news is service men and women are young and healthy, and as such are in a good position to recover.

### **CIVILIANS INJURED IN CONFLICTS**

The U.S. wars in Iraq, Afghanistan, Yemen, Syria and Pakistan, military operations in Somalia as well as the more recent conflict in Ukraine have taken a tremendous human

toll on those countries. Hundreds of thousands of civilians have been injured as a result of these conflicts and many of these injuries have resulted in TBI. For example, according to the Watson Institute for International and Public Affairs, blast-induced TBI has been referred to as the signature injury of the conflicts in Iraq and Afghanistan.

People living in these war zones have been attacked in their homes, in markets and on roadways. They have been subjected to bombs, bullets, fire and IEDs. Civilians are victimized at checkpoints, as they are run off the road by military vehicles, when they step on mines or cluster bombs, as they collect wood or tend to their fields and when they are kidnapped and executed for purposes of revenge or intimidation.

A new book, published by world-renowned UCSF neuroradiologist Dr. Alisa Gean, tackles the complexity of TBI, how it is sustained and how it affects both civilians and combatants alike. The text includes information and research gathered from nearly three decades of studying civilian TBI, as well as five intensive years of studying TBI sustained from combat, terrorism and natural disasters. “Aproximately 85% of injured World War II soldiers suffered from gunshot wounds. Today’s enemy is using a new weapon to kill, defeat and demoralize — the improvised explosive device,” says Dr. Gean.

The U.S. war in Afghanistan lasted for 22 years and resulted in an enormous footprint of civilian casualties. In their Afghanistan Protection of Civilians in Armed Conflict Annual Report, the Office of the UN High Commissioner for Human Rights (OHCHR) and the UN Assistance Mission (UNAMA) documented some 8,820 civilian casualties (3,035 deaths and 5,785 injuries) in 2020. These civilians paid a terrible price for the failure of peace negotiations and the country remains amongst the “deadliest places in the world to be a civilian”, according to Michelle Bachelet, UN High Commissioner for Human Rights. “I am particularly appalled by the high numbers of human rights defenders, journalists and media workers killed since peace negotiations began”, she says.

According to the report, the overall drop in civilian casualties in 2020 was due to fewer casualties from suicide attacks by anti-government elements in populated areas, as well as a drop in casualties attributed to international military forces. There was, however, a “worrying rise” in targeted killings by such elements — up about 45 per cent since 2019. The use of IEDs by the Taliban, air strikes by the Afghan Air



Force and ground engagements also resulted in increased casualties, according to the report. Anti-government elements bore responsibility for about 62 percent of civilian casualties, while pro-government forces were responsible for about 25 percent of the casualties. About 13 percent of casualties were attributed to crossfire and other incidents.

The report went on to note that the years-long conflict in Afghanistan “continues to wreak a shocking and detrimental toll” on women and children, who accounted for 43 percent of all civilian casualties — 30 percent children and 13 percent women. “This report shows the acute and lasting needs of victims of the armed conflict and demonstrates how much remains to be done to meet those needs in a meaningful way”, High Commissioner Bachelet said. “The violence that has brought so much pain and suffering to the Afghan population for decades must stop and steps towards reaching a lasting peace must continue.”

### CHILDREN OF WAR

June 3rd marked the 100th day of the war in Ukraine — a war that has shattered the lives of millions of children. Only days before, on June 1st, the International Day for Protection of Children [in Ukraine and across the region] was marked. “June 1 is the International Day for Protection of Children,” said UNICEF Executive Director Catherine Russell. “Instead of celebrating the occasion, we are solemnly approaching the 100th day of the war. Without an urgent ceasefire and negotiated peace, children will continue to suffer — and fallout from the war will continue to impact vulnerable children around the world.”

The scale and speed of the emergency in Ukraine have not been seen since World War II, the United Nations said in a statement, which estimated that 5.2 million children in the region need humanitarian assistance; three million inside the country and more than 2.2 million in refugee-hosting countries. As intense artillery exchanges continue between





Save the Children's new analysis on the impact of explosive weapons on children in conflict.

Russian and Ukrainian forces in eastern Donetsk region and amid reports that Russian troops are continuing their campaign, UNICEF said that almost two in three children in Ukraine have been displaced by fighting.

“Civilian infrastructure on which children depend continues to be damaged or destroyed,” the agency explained. “This so far includes at least 256 health facilities and one in six UNICEF-supported ‘Safe Schools’ in the country’s east. Hundreds of other schools across the country have also been damaged. Conditions for children in eastern and southern Ukraine where fighting had been quite intense are increasingly desperate.” In addition to the trauma of fleeing their homes, UNICEF states that children fleeing violence faced a significant risk of family separation, abuse, sexual exploitation and trafficking.

The UN agency also reiterated its call for “full humanitarian access” so that teams can “safely and quickly reach children in need wherever they may be”. Inside Ukraine, UNICEF and partners have already distributed life-saving health and medical supplies for nearly 2.1 million people in war-affected areas. Equally important, critical safe water access has also been secured for more than 2.1 million people living in areas where networks have been damaged or destroyed.

The long-lasting mental health toll of the war on children has also contributed to an acute child protection crisis, made worse by the fact that many displaced families are out of work and unable to meet their children’s basic needs. “These children urgently need safety, stability, child protection

services and psychosocial support — especially those who are unaccompanied or have been separated from their families. More than anything, they need peace,” UNICEF insisted.

Over 610,000 children and caregivers have also received mental health and psychosocial support, while nearly 290,000 children have been given learning supplies. In addition, almost 300,000 vulnerable families have registered for a humanitarian cash assistance program run by UNICEF and the Ukrainian Ministry of Social Policy. In countries hosting Ukrainian refugees, the UN agency continues to look out for the most vulnerable of children by providing anti-trafficking training for border guards and encouraging local authorities to integrate refugee children into schools.

Providing vaccines and medical supplies for displaced Ukrainians is a key component of UNICEF’s response, and so too is establishing play and learning hubs to provide young children with a much-needed sense of normalcy and respite. In total, 25 UNICEF-UNHCR “Blue Dots” — one-stop safe havens that provide support and services for families on the move, have been established along major transit routes in Moldova, Romania, Poland, Italy, Bulgaria and Slovakia, the agency said. In Moldova, more than 52,000 refugees, mostly in female-headed households, have been reached through a UNICEF-UNHCR multi-purpose cash assistance program.

Highlighting the devastating and lasting consequences of the war on millions of the country’s youngest citizens, UN Children’s Fund UNICEF maintains that most of the victims were from “attacks using explosive weapons in populated areas”, a claim

# 1.6 BILLION

## *CHILDREN ARE LIVING IN A CONFLICT AFFECTED COUNTRY.*

supported by the UN human rights office, OHCHR. With the use of explosive weapons, it is inevitable that many of these children will be effected by TBI.

According to the Save the Children Blast Injury Report, the use of explosive weapons, traditionally meant for the open battlefield, in densely populated towns and cities continues to cause devastation to children. Time after time, these weapons result in death, life-changing injuries and the destruction of vital facilities, such as schools and hospitals.

From Syria, to Yemen, to Afghanistan, the families of the injured are left to manage TBI among other devastating injuries with health systems often at the point of collapse. And children are particularly vulnerable to blasts with their bodies being lighter, and thus easily thrown farther than an adult's body. There are good reasons why the killing and maiming of children in conflict is defined as a grave violation by the United Nations. If children survive explosive weapons, they often find themselves dealing not only with physical trauma and disability, but with the loss of family members, the destruction of their homes and the disruption of their education — and with it their future prospects. To say nothing of the acute stress already caused by growing up in a war zone.


Though children can be quite resilient, they cannot be expected to recover without sustained and specialist support. Left untreated, the long-term effects of blast injuries will leave children facing a lifetime of suffering, and will ultimately create an entire generation at risk of exclusion. The Pediatric Blast Injury Partnership (PBIP), led by Imperial College London with Save the Children, is a practical response to the unique medical challenges faced by children with blast injuries.

One of the PBIP's most valuable resources to date is the Pediatric Blast Injury Field Manual, which gives medical staff in conflict settings, who often have to operate with little or no previous experience or training, the knowledge and technical guidance needed to treat children from the point of injury onwards. It also offers advice on how to provide long-term rehabilitation care and mental health support.

Smart initiatives like these will make a real difference to injured children, and medical institutions and humanitarian agencies like Save the Children will undoubtedly continue to build on this work to ensure children have the best chance of recovery. But in order to truly protect children in conflict, governments need to take an active role to advocate for children. This is why PBIP is calling on all warring parties to Stop the War on Children by taking steps to uphold international laws and norms, ensuring accountability for crimes against children and investing in the support necessary to help children recover from the physical and psychological trauma caused by conflict.

PBIP found that 80% of pediatric blast patients experienced penetrating injuries to the head. By comparison, just 31% of adult blast patients experienced the same injury. Within this, younger children are more affected. Children under seven are almost twice as likely to present with head injuries as older children. In one study, 90% of children who died from blast injuries had skull fractures. When children survive a blast, they are almost always left with life-limiting brain injury.

Take 12-year-old Mahmoud who lives in Gaza. In 2014 when he was playing in the street, he was hit by an explosive weapon. "I heard an explosion and I felt something go into my eye. I touched my eye and felt blood pouring out. I ran for help and was taken to the hospital. I woke up missing one of my eyes." Mahmoud's family says beyond his physical injuries, he was not himself after the accident. Mahmoud likely suffered an undiagnosed TBI.

Helle Thorning-Schmidt, CEO of Save the Children International and former Prime Minister of Denmark is uncompromising in her assessment: "International law makes clear that everyone has a responsibility to make sure children are protected in war. Yet explosive weapons continue to kill, maim and terrorize thousands of children every year. Every warring party — from armed groups to governments — must do more to protect children and abide by this important moral principle." 





# HIGH HOPES



## WHERE HOPE BECOMES SUCCESS!

The goal of High Hopes Head Injury Program is to provide comprehensive rehabilitation services for the head injured leading to maximum independence for the individual within the community at a low cost.

Our one-of-a-kind program started in 1975 and was the first nonprofit charitable brain injury rehabilitation program in the country. We are dedicated to helping members of the brain-injured community live their best lives.

High Hopes Head Injury Program serves individuals who have suffered a brain injury or stroke and the Multiple Sclerosis (MS) population. We have an outstanding success record of achieving results far above expectations and never give up on anyone but rather find successful solutions helping each person rebuild their life.



[www.HighHopes.ws](http://www.HighHopes.ws) | (949) 733-0044



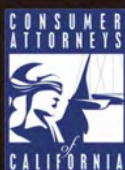
WE ARE WINNING TRIAL LAWYERS OF, BY, AND FOR THE PEOPLE!  
Verdicts & Settlements OVER \$100M WON!

[www.mcelfishlaw.com](http://www.mcelfishlaw.com)

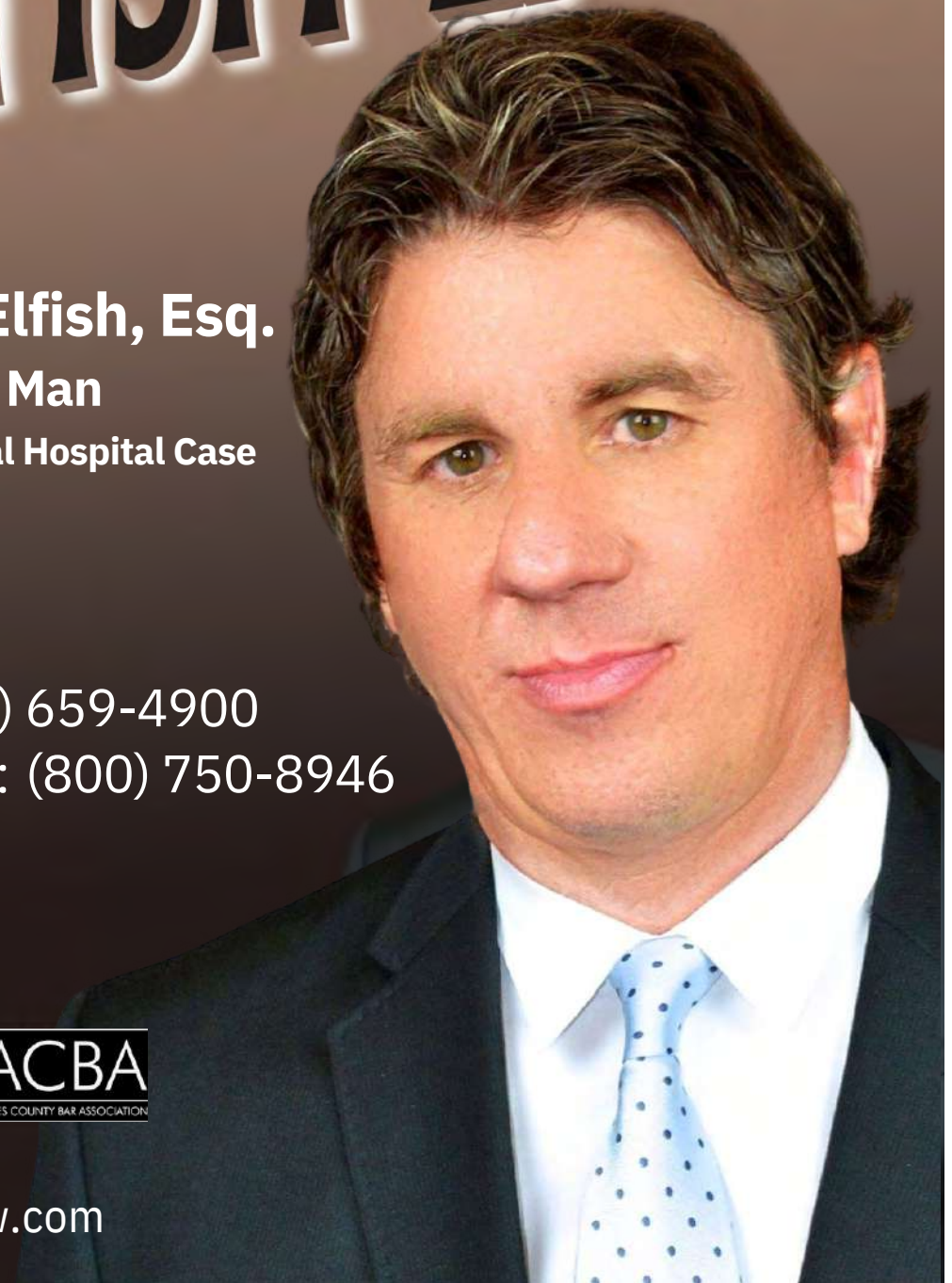
# MCELFISH LAW

**Raymond D. McElfish, Esq.**  
**\$28.6 Million Dollar Man**  
**Nevis vs. Rideout Memorial Hospital Case**

Call our office: (310) 659-4900  
Our 24-hour hotline: (800) 750-8946



[rmcelfish@mcelfishlaw.com](mailto:rmcelfish@mcelfishlaw.com)





# DOMESTIC VIOLENCE AND TBI

Millions of women worldwide are living with the impacts of traumatic brain injury (TBI) caused by domestic violence. These women often suffer injuries to their head, neck and face. The high potential for women who are abused to have mild to severe TBI is a growing concern since the effect can cause irreversible psychological and physical harm. Women who are abused are more likely to have repeated injuries to the head, and as injuries accumulate, the likelihood of full recovery dramatically decreases. To make matters worse, sustaining another head trauma before the complete healing of an initial injury may be fatal.

Severe, obvious trauma does not have to occur for a brain injury to exist. A woman can sustain a blow to the head without any loss of consciousness or apparent reason to seek medical assistance, yet display symptoms of TBI — while loss of consciousness can be significant in helping to determine the extent of brain injury, people with minor to moderate TBI often do not lose consciousness yet still have difficulties as a result of their injury. Many women suffer from a TBI unknowingly and misdiagnosis is common since symptoms may not be immediately apparent and may mirror those of mental health diagnoses. In addition, subtle injuries that are not identifiable through MRIs or CT scans may still lead to cognitive symptoms.

Though domestic violence against women has existed for as long as domestic life has, there is little existing research on its connection to TBI. Dr. Eve Valera, Assistant Professor in Psychiatry at Harvard Medical School, and a Research Scientist at Massachusetts General Hospital is working to change that. She published one of the first studies examining the prevalence of intimate partner violence (IPV)-related TBI and its relationship to cognitive and psychological functioning. Her work is ongoing and expanding to address other potential neural consequences of TBIs from partner violence.

Dr. Valera's preliminary study entitled Strangulation as an Acquired Brain Injury in IPV and its Relationship to Cognitive and Psychological Functioning aimed to examine the relationship between strangulation-related alterations in consciousness (AIC)

and cognitive and psychological outcomes in women who have experienced intimate partner violence (IPV).

The first report to assess strangulation as part of IPV and demonstrate links to resulting cognitive and psychological functioning, the study recruited 99 women from a variety of settings, including women's shelters and support programs. Of the 99, 52 were eliminated from the study for meeting criteria that could mask or confound the effect of strangulation on the brain.

The literature related to the study states that several cognitive measures were used to assess learning, long-term and working memory, visuomotor speed, cognitive flexibility and nonverbal cognitive fluency as well as several psychological measures to assess post-traumatic stress symptomatology, general distress, worry, anhedonic depression and anxiety. The Brain Injury Severity Assessment interview was used to examine the association between strangulation-related AICs and these measures of cognitive and psychological functioning. The results of the study found that women who had experienced strangulation-related AICs performed more poorly on a test of long-term memory and had higher levels of depression and post-traumatic stress than women who had not experienced strangulation-related AICs. The finding also showed that women who had experienced strangulation also performed more poorly on a measure of working memory.

"The number of women sustaining IPV-related TBIs dwarf the combined number of military and NFL TBIs or concussions reported. Using annual estimates of severe physical violence (totaling 3,200,000 women), about 1,600,000 women are estimated to sustain repetitive IPV-related TBIs in comparison to the total annual numbers of TBIs reported for the military and NFL (18,000 and 281, respectively)," says Dr. Valera.

Licensed clinical social worker Katherine Price Snedaker is also part of the crusade not only to bring awareness to IPV-related TBI but to highlight the marked differences between how women and men are affected by brain injury. She is the Executive Director and Founder of PINK Concussions, a non-profit organization focused






## How physical and emotional abuse effect the brain.

on pre-injury education and post-injury medical care for women and girls with brain injuries including concussions incurred from sport, accidents, military service or domestic violence. The organization's mission is to drive change and innovation to develop and implement sex-specific/gende -responsive, evidence-based strategies for the identification, managemen and support of women and girls with brain injuries. According to Snedaker, the organization has the vision to create a world in which women and girls with brain injuries are quickly identifie and receive appropriate, compassionate care and support. You can learn more about the organization at [pinkconcussions.com](http://pinkconcussions.com).

In addition to the physical violence leading to TBI as a result of IPV, there is also the psychological aspect to consider. Studies have shown that long-term psychological abuse, which can be constituted as IPV alone but also inevitably accompanies physical violence, can cause brain damage. According to Dr. Gail Gross, Ph.D., Ed.D., M.Ed., long-term emotional abuse shrinks the hippocampus, the complex brain structure embedded deep into the temporal lobe responsible for memory and learning, while enlarging the amygdala which is the integrative center for behavior and motivation and houses primitive emotions such as fear, grief, guilt, envy and shame.

The physiological changes to the brain caused by emotional abuse can be reversed thanks to neuroplasticity, the brain's ability to modify, change, and adapt both structure and function throughout life and in response to experience. Research has shown that the hippocampus can regrow. One way to facilitate this regrowth is with Eye Movement Desensitization and Reprocessing (EMDR), a form of psychotherapy developed by Francine Shapiro in the 1980s that was originally designed to alleviate the distress associated with traumatic memories such as post-traumatic stress disorder. A recent study showed that eight to twelve sessions of EMDR for patients with PTSD showed an average of a 6% increase in the volume of their hippocampi. Other methods that have been shown to repair both the hippocampus and amygdala include guided meditation and aroma and essential oil therapy. 



A stylized, glowing blue wireframe head in profile, facing right. The head is composed of a grid of lines, with a brain visible inside. The brain is rendered in a similar wireframe style, with glowing blue and white lines representing neural connections. The background is dark blue, and the overall aesthetic is futuristic and technological.

neuro

VR



# An innovative and immersive approach to traumatic brain injury treatment.

The World Health Organization estimates that traumatic brain injury (TBI) is and will remain the most important cause of neurodisability in the coming years. The search for neuroprotective therapies for severe TBI has been extensive but unfruitful over the last few decades, testified by more than 30 failed clinical trials, and we still have no specific neuroprotective therapy, that is, effective in clinical TBI. The burden of mortality and residual disability calls for new approaches to promote recovery of function of TBI patients in the acute and chronic phase.

Classically described as a sudden event with short-term consequences, TBI induces dynamic pathological cascades that may persist for months or years after injury with a major impact on outcome. Among dynamic mechanisms, the neuroinflammatory response and the accumulation of aberrant proteins may have a critical role in establishing a neuropathological link between acute mechanical injury and late neurodegeneration. The close association between post-TBI neurological changes, persistent neuroinflammation, and late neuropathology highlights the fact that the window of opportunity for therapeutic intervention may be much wider than previously thought and that long-term treatment encompassing the acute and chronic phase should be tested to effectively interfere with this complex condition.

An emerging technology, virtual reality (VR), represents a new tool for this purpose and might provide TBI care teams with new neuro-restorative strategies readily available at the bedside. Since the late 1980s, this term has been used to describe a 3D synthetic environment created by computer graphics, where the user has the feeling of being inside. VR can be described as "an advanced form of human-computer interface that allows the user to interact with and become immersed in a computer-generated environment in a naturalistic fashion". For its flexibility, sense of presence (i.e., the feeling of "being there") and emotional engagement, VR has been tested in motor and cognitive rehabilitation, with good results. In stroke patients, the number of VR programs is rapidly increasing with compelling data showing an improvement in recovery of motor function and daily living activities.

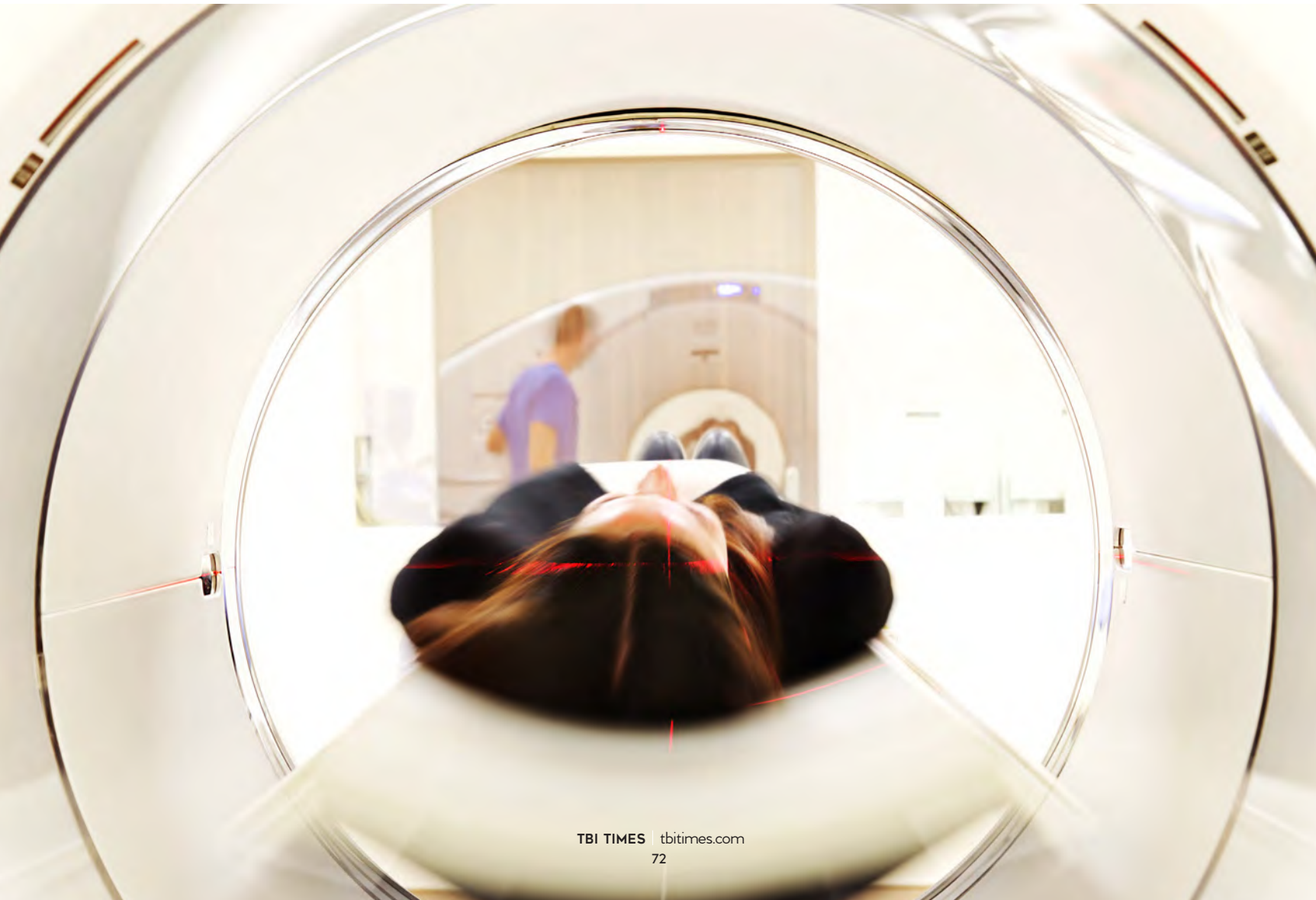
VR has been successfully used both as assessment instrument and as therapeutic intervention. As assessment tool, VR has been used to detect visual-vestibular deficits in adults after concussion and mild TBI. VR assessment protocols appear to be primarily implemented for mild TBI. Conversely, VR treatment protocols for cognitive rehabilitation are used transversely from mild to severe conditions, although effectiveness of these kinds of interventions needs to be further explored. **T**

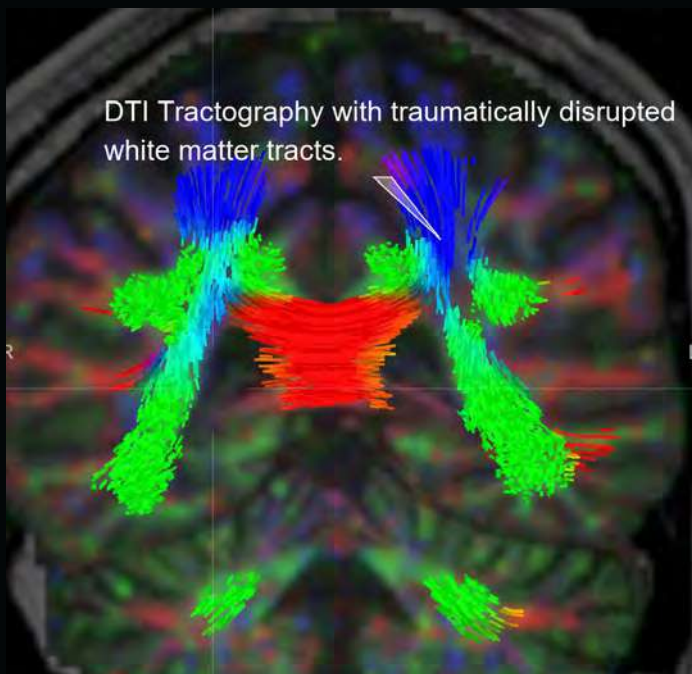




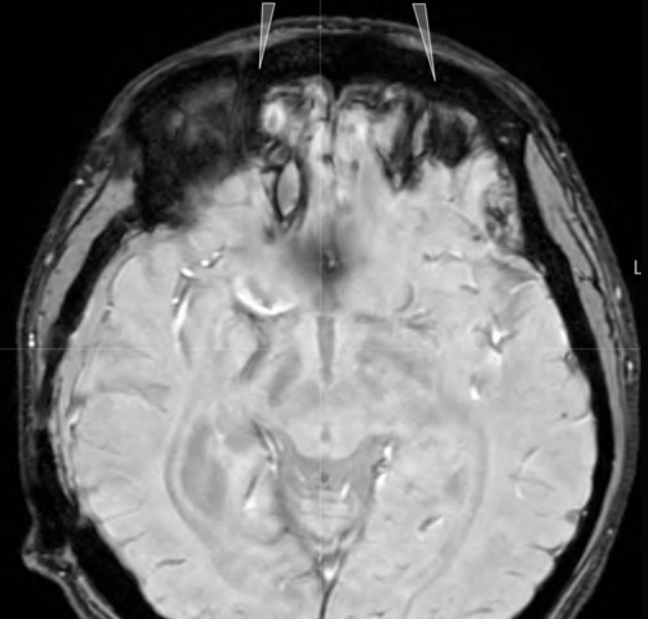
# BRAIN MAPPING SOLUTIONS

**DETECTING AND ILLUSTRATING THE INVISIBLE**





Evidence of Prior Traumatic Brain Bleeding (Hemosiderin)



**"GIVEN THE COGNITIVE AND BEHAVIORAL CHALLENGES THAT MAY RESULT FROM A TRAUMATIC BRAIN INJURY (TBI), BEING ABLE TO PROVIDE PATIENTS WITH CONCRETE EVIDENCE OF THEIR TBI OFFERS THEM HOPE AND PROVIDES A STARTING POINT FOR TREATMENT."**

DR. DARREN BUONO, M.D., CEO OF STAR TELERADIOLOGY  
AND BRAIN MAPPING SOLUTIONS NEURORADIOLOGIST

## CUTTING EDGE NEURO-IMAGING

Brain Mapping Solutions Inc. is a cutting edge neuroimaging software company committed to providing results and solutions for those coping with traumatic brain injury (TBI) and neurodegenerative diseases. We have combined our proprietary Prism Imaging software with a team of highly experienced and specialized brain injury experts throughout the country to detect and illustrate abnormalities in the brain.

Brain injury can be very difficult to prove through objective finding at the mild to moderate level. Partnering with Brain Mapping Solutions can make illustrating TBI a tangible objective. Through our FDA cleared MRI/DTI post processing viewer, we are not only able to establish where in the brain the injury is, we can also link it with potential cognitive and behavioral deficits

We are currently operating in over 100 imaging centers throughout the country, including those affiliated with academic institutions, hospitals, and trauma centers. After being referred to one of these facilities, a patient's scans are uploaded to a secure HIPPA compliant cloud-based server where our team of neuroradiologists are able to read the images and report the findings

Brain Mapping Solutions is committed to working with client's beyond the delivery of finding in an effort to facilitate a complete understanding of the injury. Our neuroradiologists are available to personally walk patients and their families through the results of a scan and what their treatment and rehabilitation options are.

## PROPRIETARY DTI SOFTWARE

Brain Mapping Solutions has developed a proprietary FDA cleared DTI imaging software which can be used with 1.5T or 3T MRI machines. This advanced imaging protocol is revolutionizing the way TBI is objectively diagnosed.

## EXPERT NEURORADIOLOGISTS

We partner with an extensive network of board certified neuroradiologists who read the results of our scans. Their highly specialized training produces the most accurate scan analysis.

## NEUROPRODUCTIVE THERAPY

Our proprietary "Neuro-Infuse" therapy was designed around the premise that brain injury is multi-modal in nature. This unique approach treats each component that contributes to long term cognitive decline using a proprietary formula of non-toxic vitamins at supra-physiologic levels.

## NEUROPSYCHOLOGICAL SCREENING

Our partnership with CogNet Rehab Solutions allows us to identify the cognitive and behavioral impairments in a patient associated with TBI and create a treatment program tailored to each individual client's needs.





# MAGNETIC TRIO

The field of neuroradiology is experiencing a renewal thanks to three things: very powerful MRI scanners, cutting-edge MRI/DTI techniques, and highly specialized board-certified neuroradiologists—making TBI diagnosis more tangible than ever.

# *DTI STUDIES ARE INCREASINGLY POPULAR AMONG CLINICIANS AND RESEARCHERS AS THEY PROVIDE UNIQUE INSIGHTS INTO BRAIN NETWORK CONNECTIVITY.*

Many great scientific and medical breakthroughs have been a result of dynamic duos. Take for example Albert Einstein and Sir Arthur Eddington — Einstein's theories are well known, but it was Eddington who proved and endorsed many of them. Then there was Charles Darwin and Alfred Wallace — while Darwin is familiar to many, the less known Wallace worked closely with him to promote acceptance of their similar theories of evolution. And of course, Nikola Tesla and Thomas Edison — together these two scientists revolutionized electricity.

The field of Neuroradiology [a branch of radiology which focusses on the diagnosis and characterization of abnormalities of the central and peripheral nervous system, spine, head and neck using neuroimaging techniques] ups the ante with its very own dynamic TRIO. Arthur Schüller, a Viennese neuropsychiatrist [the first to study intracranial disease using X-rays], Walter Dandy, an American neurosurgeon [pioneer of pneumoencephalography — a medical procedure in which most of the cerebrospinal fluid was drained from around the brain by means of a lumbar puncture and replaced with air, oxygen or helium to allow the structure of the brain to show up more clearly on an X-ray image] and Egas Moniz, a Portuguese neuropsychiatrist [who developed cerebral angiography — a medical imaging technique used to visualize the inside of blood vessels and organs of the body]. The work of these three pioneers laid the groundwork for neuroradiology as a specialization.

In a more recent chapter of neuroradiology, a new dynamic trio has surfaced — super high-powered magnetic resonance imaging

(MRI) scanners, proprietary Diffusion Tensor Imaging (DTI) software and highly skilled neuroradiologists, all coming together to make TBI diagnosis a reality for many.

MRI scanners come in different magnet field strengths measured in teslas (named for Nikola Tesla) or “T”, usually between 0.5T and 3.0T. The image quality of an MRI depends on signal and field strength — the higher the teslas, the clearer the image. Mainstream facilities typically house 1.5T units however, 3.0T MRI scanners are becoming more prevalent. And science isn't stopping at 3.0T — the strongest MRI machines clock in at 10.5T. This \$14-million scanner is one of a handful around the world that are pushing MRI to new limits. In fact, ultra-high-field scanners are on the rise. There are already dozens of 7T machines in research labs around the world, and last year, the first 7T model was cleared for clinical use in both the United States and Europe. At the extreme end of the spectrum, there are three scanners designed for humans that reach beyond 10 T. Researchers at the University of Minnesota are readying two 11.7T devices for their first tests on people: one for whole-body scanning at the NeuroSpine Centre at CEA Saclay outside of Paris and a smaller one for head scans at the US National Institutes of Health (NIH) in Bethesda, Maryland. Germany, China and South Korea are considering building 14T human scanners.

These ultra-superpower scanners aren't required to utilize revolutionary DTI software — according to R. David Cruickshank, CEO of Brain Mapping Solutions, a cutting-





DR. DARREN BUONO, M.D., CEO OF STAR  
TELERADIOLOGY AND BRAIN MAPPING  
SOLUTIONS NEURORADIOLOGIST

*“TBI IS NOT LIFE THREATENING, BUT IT IS LIFE CHANGING — HAVING A DIAGNOSIS OF TBI CAN GIVE PATIENTS MUCH NEEDED VALIDATION.”*

edge neuroimaging software development company — scans produced using 1.5T and 3.0T scanners combined with their patented DTI/MRI applications and FDA approved viewers can detect mild to moderate TBI among other difficult to diagnose conditions such as degenerative and auto-immune diseases.

DTI studies are increasingly popular among clinicians and researchers as they provide unique insights into brain network connectivity, however, the processing of DTI scans requires a high level of skill and expertise in order for them to deliver on their true potential in diagnosing elusive brain abnormalities. First introduced by Peter Basser in 1994, DTI is an improved version of conventional MRI wherein signals are solely generated from the movement of water molecules. The term ‘diffusion’ denotes random thermal motion of water molecules. In other words, DTI uses the diffusion of water as a probe to determine the anatomy of a brain network, which basically provides information on static anatomy that is not influenced by brain functions.

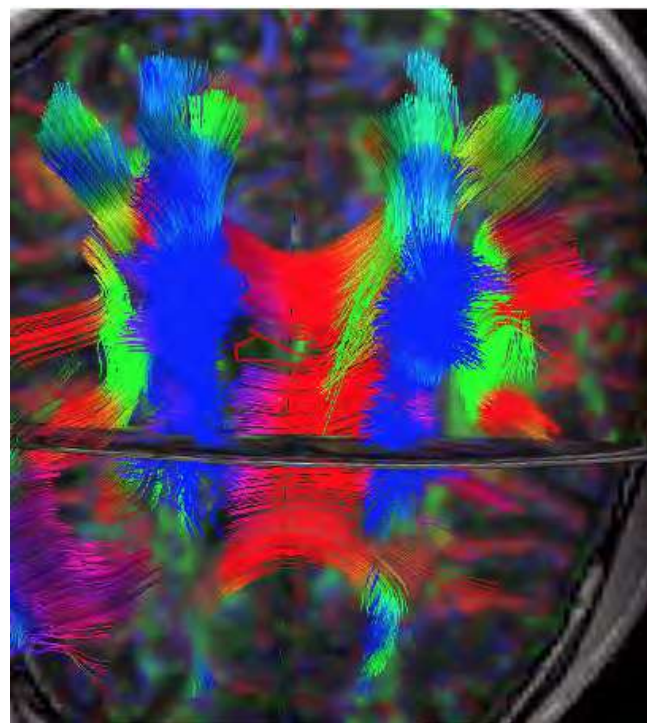
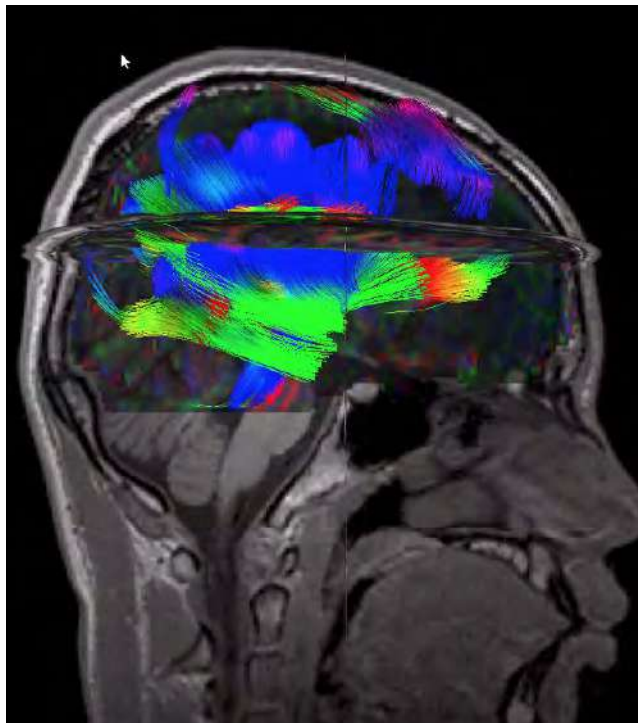
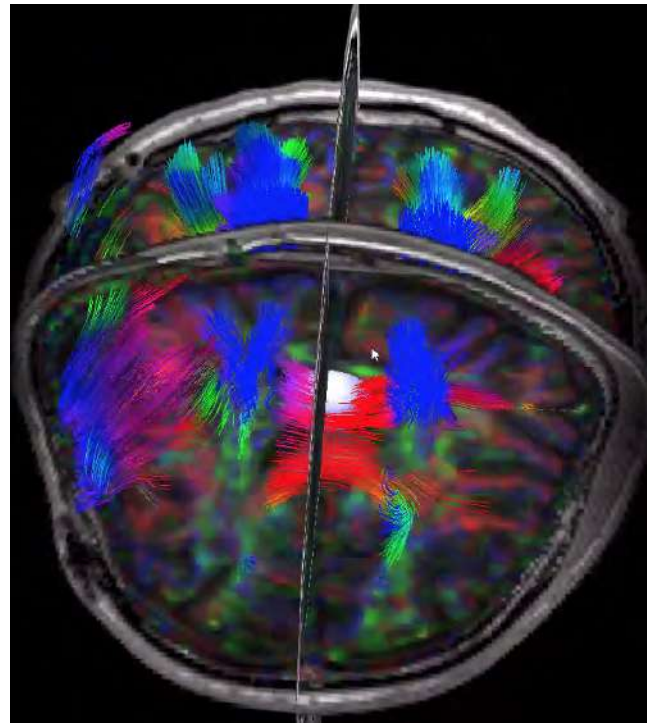
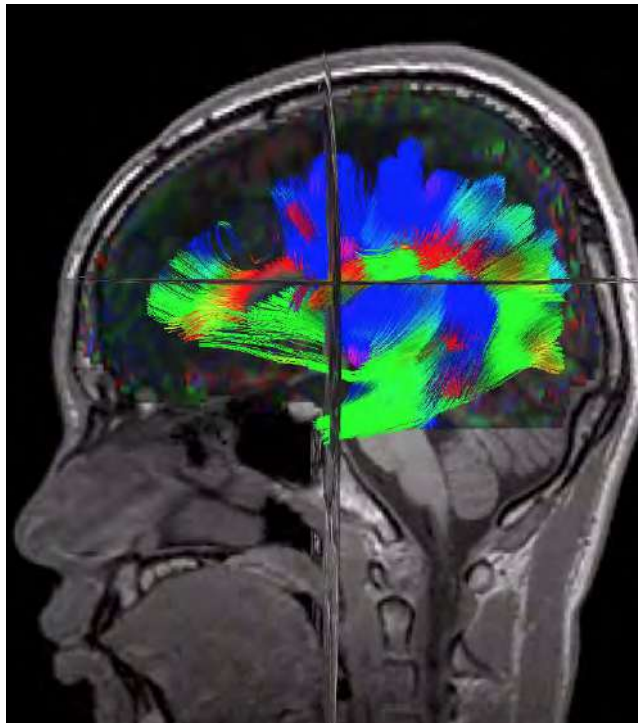
The basic principle depends on the fact that water molecules should move faster along the axon fiber [a thin fiber that extends from a neuron, or nerve cell, and is responsible for transmitting electrical signals to help with sensory perception and movement] instead of moving upright to the fiber because obstructions present along the fiber are comparatively lesser to restrict its movement. Based on this principal, the technique can produce completely unique image contrast, which is very useful in visualizing important brain structures.

Without specially trained, highly skilled neuroradiologists

like Dr. Darren Buono, M.D., fellowship trained Diplomate of the American Board of Radiology and CEO of STAR Teleradiology, high powered MRI scanners and state-of-the-art DTI software could not deliver on their promises. Dr. Buono started his career in sports medicine where he began to recognize the value that a concrete diagnosis of traumatic brain injury (TBI) could have for his patients. “TBI is not life threatening, but it is life changing”, he says. He could see that his patients were experiencing serious cognitive struggles, yet they did not have any diagnosis to support what they were coping with. Enter DTI — and Brain Mapping Solutions’s software technology. He says they make him a better diagnostic neuroradiologist by giving him the tools to provide his patients with diagnoses that validate the cognitive and emotional symptoms they are experiencing — which he says is life changing for them.

Dr. Buono has read thousands of DTI scans and is passionate about their place in mainstream medicine. In fact, he is an advocate of FDA approval for the technique. With that, he says, the equipment and software required could become more easily accessible. Currently the cost to purchase the necessary tools for producing and reading DTI scans puts the technology out of reach for many facilities. “There are ways to read the scans without the expensive software, however it requires a niche expertise and is extremely time consuming, making it an unfeasible option.” he says.

As DTI imaging moves towards the mainstream, research and development continues, paving the way for future advancements in this life-changing technology. **||**



**CASE STUDY**

*Top: DTI scans processed using Prism Imaging by Brain Mapping Solutions showing severe brain damage in an 18-year-old adolescent who was thrown from a motor vehicle. The scans are not symmetrical, an indication of abnormality.*

*Left: DTI scan of a normal brain. A normal DTI scan will be symmetrical and balanced.*





*“The Brain Injury Association of California (BIACal) is committed to helping all survivors of traumatic brain injury, and children are no exception. This is why our relationship with Children’s Hospital Los Angeles is such an important aspect of our work and mission. We encourage you to include BIACal in your charitable giving plan to help Children’s Hospital Los Angeles continue to provide phenomenal care to the next generation.”*

- DR. NICHOLAS LOOEE, DC  
VICE CHAIRMAN, BIACAL

YOUR DONATION TO THE  
BRAIN INJURY ASSOCIATION  
OF CALIFORNIA HELPS TO  
SUPPORT CHILDREN’S  
HOSPITAL LOS ANGELES.

**DONATE TODAY: 833 636 3824**





# FAST AND EASY PAIN SOLUTIONS



- LIENS ACCEPTED
- STATE APPOINTED QME'S
- RATABLE NARRATIVE REPORTS
- INDUSTRIAL DISABILITY EVALUATORS
- SAME DAY APPOINTMENTS



**MENDYK**  
CHIROPRACTIC, INC.

**MORENO VALLEY**

951 967 0246

22635 ALESSANDRO BLVD., STE D,  
MORENO VALLEY, CA 92553

**PERRIS**

951 943 1722

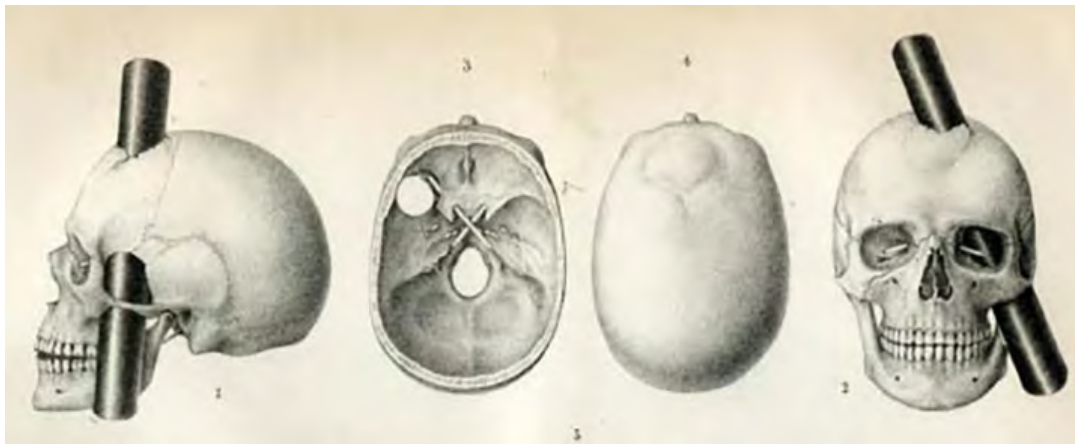
764 W RAMONA EXPY, STE A,  
PERRIS, CA 92571

[WWW.MENDYKCHIRO.COM](http://WWW.MENDYKCHIRO.COM)





# PHINEAS GAGE



## America's Crowbar Case

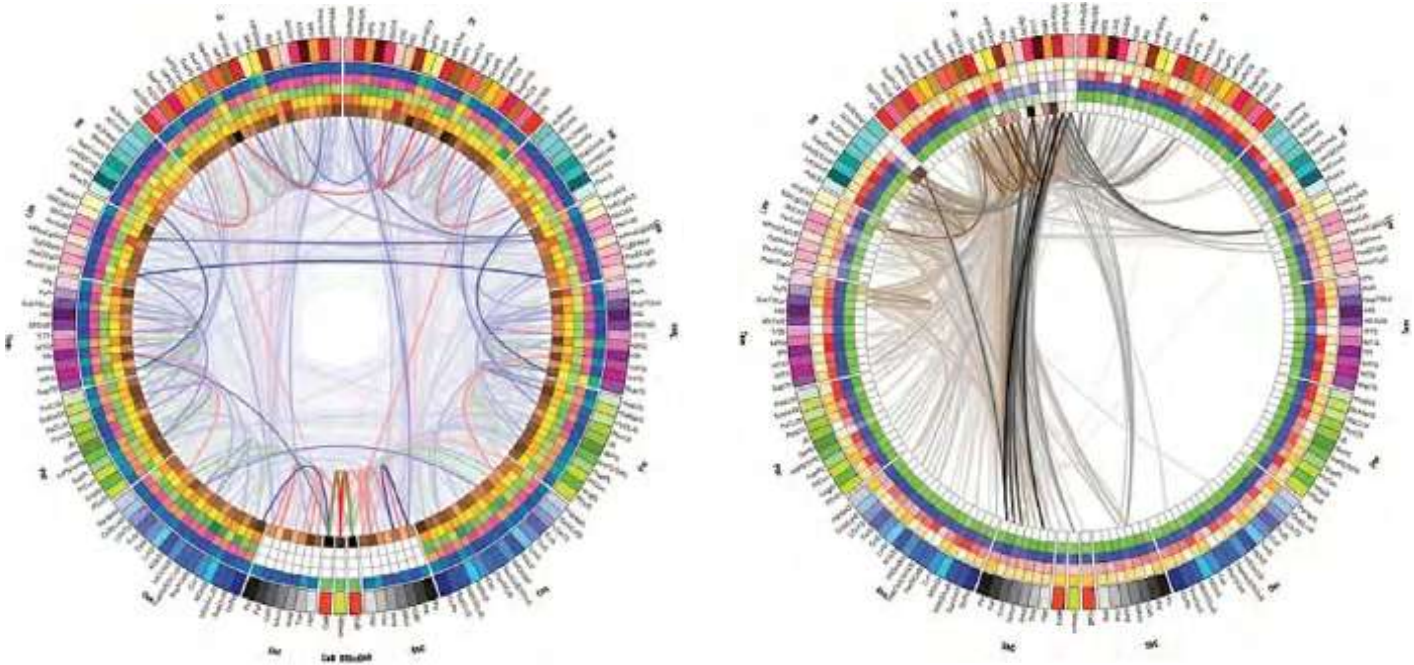
Phineas P. Gage (1823–1860) was an American railroad construction foreman remembered for his improbable: 19th-century survival of an accident in which a large iron rod was driven completely through his head, destroying much of his brain's left frontal lobe, and for that injury's reported effects on his personality and behavior over the remaining 12 years of his life—effects sufficiently profound that friends saw him (for a time at least) as “no longer Gage”.

Long known as the “American Crowbar Case”—once termed “the case which more than all others is calculated to excite our wonder, impair the value of prognosis, and even to subvert our physiological doctrines”—Phineas Gage influenced 19th-century discussion about the mind and brain, particularly debate on cerebral localization, and was perhaps

the first case to suggest the brain's role in determining personality, and that damage to specific parts of the brain might induce specific mental changes

In 1848, Gage, 25, was the foreman of a crew cutting a railroad bed in Cavendish, Vermont. On September 13, as he was using a tamping iron to pack explosive powder into a hole, the powder detonated. The tamping iron—43 inches long, 1.25 inches in diameter and weighing 13.25 pounds—shot skyward, penetrated Gage's left cheek, ripped into his brain and exited through his skull, landing several dozen feet away. Though blinded in his left eye, he might not even have lost consciousness, and he remained savvy enough to tell a doctor that day, “Here is business enough for you.”





Connectograms are graphical representations of connectomics, the field of study dedicated to mapping and interpreting all of the white matter fiber connections in the human brain. The image on the left shows the connectogram of a healthy human brain. Gage's connectogram (right) looks quite different from that of an average healthy brain, and is dominated by white matter tracts that were either lost entirely (shown below in shades of grey) or partially severed (shades of brown) by the rod as it passed through his head:

Gage's initial survival would have ensured him a measure of celebrity, but his name was etched into history by observations made by John Martyn Harlow, the doctor who treated him for a few months afterward. Gage's friends found him "no longer Gage," Harlow wrote. The balance between his "intellectual faculties and animal propensities" seemed gone. He could not stick to plans, uttered "the grossest profanity" and showed "little deference for his fellows." The railroad-construction company that employed him, which had thought him a model foreman, refused to take him back. So Gage went to work at a stable in New Hampshire, drove coaches in Chile and eventually joined relatives in San Francisco, where he died in May 1860, at age 36, after a series of seizures.

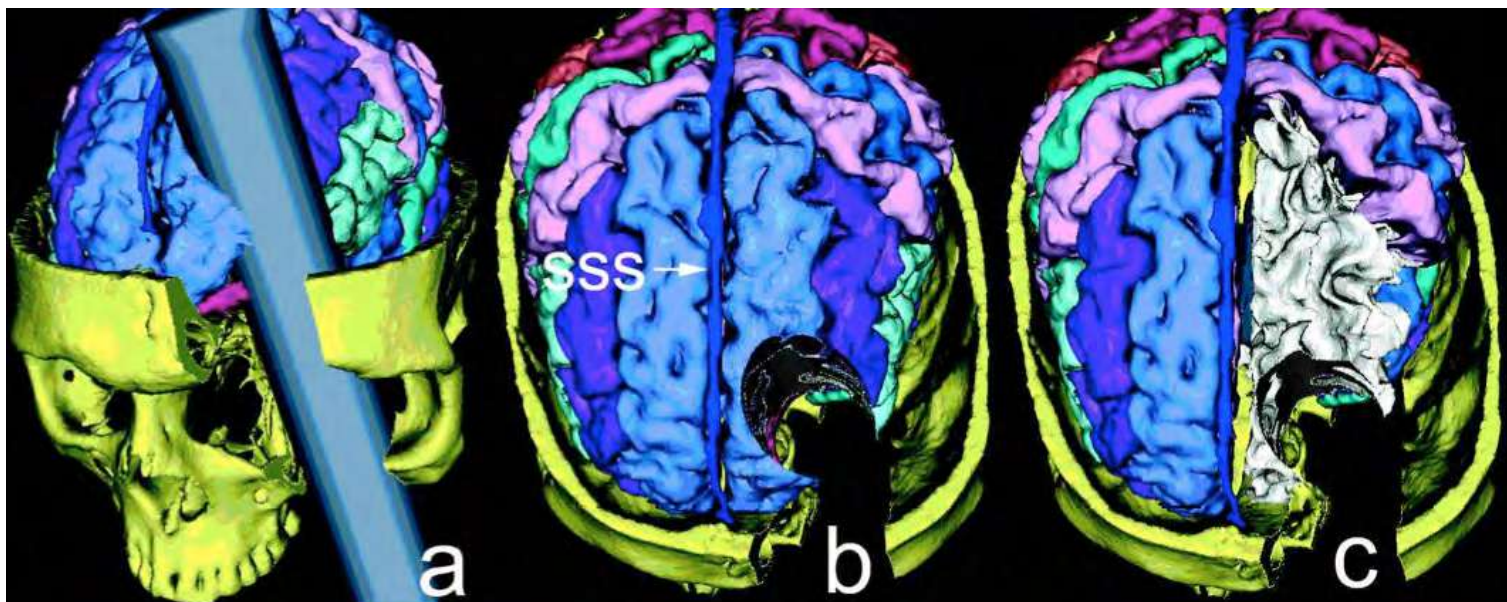
In time, Gage became the most famous patient in the annals of neuroscience, because his case was the first to suggest a link between brain trauma and personality change. In his book *An Odd Kind of Fame: Stories of Phineas Gage*, the University of Melbourne's Malcolm Macmillan writes that two-thirds of introductory psychology textbooks mention Gage. Even today, his skull, the tamping iron and a mask of his face made while he was alive are the most sought-out items at the Warren Anatomical Museum on the Harvard Medical School campus.

Michael Spurlock, a database administrator in Missoula, Montana, happened upon the Wilgus daguerreotype on Flickr in December 2008. As soon as he saw the object the one-eyed man held, Spurlock knew it was not a harpoon. Too

short. No wooden shaft. It looked more like a tamping iron, he thought. Instantly, a name popped into his head: Phineas Gage. Spurlock knew the Gage story well enough to know that any photograph of him would be the first to come to light. He knew enough, too, to be intrigued by Gage's appearance, if it was Gage. Over the years, accounts of his changed character had gone far beyond Harlow's observations, Macmillan says, turning him into an ill-tempered, shiftless drunk. But the man in the Flickr photograph seemed well-dressed and confident.

It was Spurlock who told the Wilguses that the man in their daguerreotype might be Gage. After Beverly finished her online research, she and Jack concluded that the man probably was. She e-mailed a scan of the photograph to the Warren museum. Eventually it reached Jack Eckert, the public-services librarian at Harvard's Center for the History of Medicine. "Such a 'wow' moment," Eckert recalls. It had to be Gage, he determined. How many mid-19th-century men with a mangled eye and scarred forehead had their portrait taken holding a metal tool? A tool with an inscription on it?

The Wilguses had never noticed the inscription; after all, the daguerreotype measures only 2.75 inches by 3.25 inches. But a few days after receiving Spurlock's tip, Jack, a retired photography professor, was focusing a camera to take a picture of his photograph. "There's writing on that rod!" Jack said. He couldn't read it all, but part of it seemed to say, "through the head of Mr. Phi..."



In March 2009, Jack and Beverly went to Harvard to compare their picture with Gage's mask and the tamping iron, which had been inscribed in Gage's lifetime: "This is the bar that was shot through the head of Mr. Phineas P. Gage," it reads, misspelling the name.

Harvard has not officially declared that the daguerreotype is of Gage, but Macmillan, whom the Wilguses contacted next, is quite certain. He has also learned of another photograph, he says, kept by a descendant of Gage's. As for Spurlock, when he got word that his hunch was apparently correct, "I threw open the hallway door and told my wife, 'I played a part in a historical discovery!'"

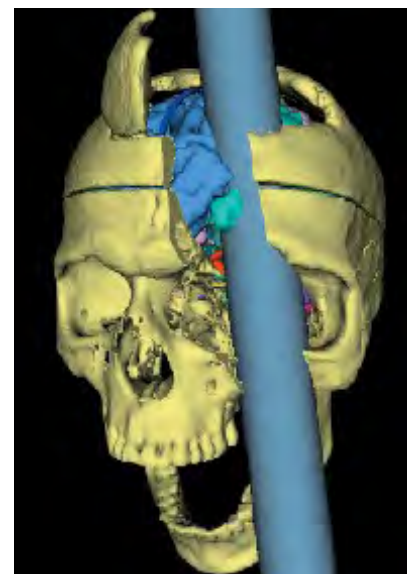
Popular reports of Gage often depict him as a hardworking, pleasant man prior to the accident. Post-accident, these reports describe him as a changed man, suggesting that the injury had transformed him into a surly, aggressive heavy drinker who was unable to hold down a job.

Harlow presented the first account of the changes in Gage's behavior following the accident. Where Gage had been described as energetic, motivated, and shrewd prior to the accident, many of his acquaintances explained that after the injury he was "no longer Gage."


Since there is little direct evidence of the exact extent of Gage's injuries aside from Harlow's report, it is difficult to know exactly how severely his brain was damaged. Harlow's accounts suggest that the injury did lead to a loss of social inhibition, leading Gage to behave in ways that were seen as inappropriate.

Gage's case had a tremendous influence on early neurology. The specific changes observed in his behavior pointed to emerging theories about the localization of brain function, or the idea that certain functions are associated with specific areas of the brain. In those years, neurology was in its infancy. Gage's extraordinary story served as one of the first sources of evidence

The "cone of uncertainty" for the path taken by the tamping iron. Gage's mouth was open at the moment of the explosion, and the front and back of his skull temporarily "hinged" apart as the iron entered from below, then were pulled together by the resilience of soft tissues once the iron had exited through the top of Gage's head



that the frontal lobe was involved in personality. Today, scientists better understand the role that the frontal cortex has to play in important higher-order functions such as reasoning, language, and social cognition.

After the accident, Gage was unable to continue his previous job. According to Harlow, Gage spent some time traveling through New England and Europe with his tamping iron to earn money, supposedly even appearing in the Barnum American Museum in New York. He also worked briefly at a livery stable in New Hampshire and then spent seven years as a stagecoach driver in Chile. He eventually moved to San Francisco to live with his mother as his health deteriorated. After a series of epileptic seizures, Gage died on May 21, 1860, almost 12 years after his accident. Seven years later, Gage's body was exhumed. His brother gave his skull and the tamping rod to Dr. Harlow, who subsequently donated them to the Harvard University School of Medicine. They are still exhibited in its museum today. 



We protect elders and consumers.

We defend the environment.

We promote product safety.

We fight for the underdog.

We stand for democracy.

**We stand for you.**

**Stand with us.**

**STAND FOR**

**JUSTICE**

# TOP TRAUMATIC BRAIN INJURY LAWYER STATE OF CALIFORNIA

## Gary A. Dordick

TBI - MASTER CLASS INSTRUCTOR  
36 YEARS EXPERIENCE - TBI CASES

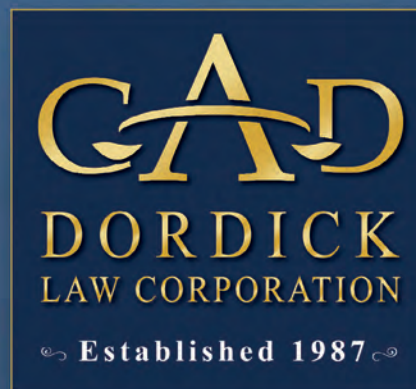
*CAALA Trial Lawyer of the Year*  
*CAOC Trial Lawyer of the Year*  
*Verdictum Juris Trial Lawyer of the Year*  
*ASCDC Civility Award*  
*Loyola Law School's Champion of Justice Award*  
*Daily Journal Top Lawyer Award*  
*Bernard Jefferson Award of Excellence*  
*Best Lawyer in America Who's Who Award*  
*Million Dollar Advocate Award*  
*Super Lawyers Top 100 Lawyers*

### Proven Track Record

**\$125 MILLION** Briones v. Zink  
*verdict Personal Injury*

**\$72.6 MILLION** Greene v. Driz  
*verdict Traumatic Brain Injury*

**\$55.3 MILLION** Steward v. Stratus  
*verdict Negligence*



Beverly Hills | Downtown L.A. | Riverside  
Tel: 310.551.0949 Toll Free: 800.555.5595

**Ethics • Civility • Results**

**DORDICKLAW.COM**



# FOREIGN ACCENT SYNDROME

Traumatic brain injury can induce this rare and mysterious syndrome.

Foreign accent syndrome (FAS) is a speech disorder that causes a sudden change to speech so that a native speaker is perceived to speak with a “foreign” accent. FAS is most often caused by damage to the brain caused by a stroke or traumatic brain injury. Other causes have also been reported including multiple sclerosis and conversion disorder and in some cases, no clear cause has been identified.

Norwegian neurologist Georg Herman Monrad-Krohn reported the best-known case of FAS, in which speech was altered in terms of timing, intonation, and tongue placement causing the subject to sound foreign. In FAS, speech remains highly intelligible and does not necessarily sound disordered.

FAS has been documented in cases around the world, including accent changes from Japanese to Korean, British English to French, American English to British English, and Spanish to Hungarian.

There have been only about 100 known cases of the syndrome since it was first reported in the 1940s. The most famous case was a Norwegian woman who was hit by shrapnel in World War II; she developed a German accent and was ostracized as a result.

Other cases include a British woman from Devon who developed a Chinese accent following a migraine, and another British woman who had a stroke after which she acquired a French accent. FAS affects only a small area of speech — the pattern and intonation — and in some recorded cases appears to have been brought on by a stroke or traumatic brain injury (TBI).

The primary symptom of foreign accent syndrome is speaking in an accent associated with a country where the person has never lived or in a language, they have never spoken. For example, a native English speaker who has never left the United States may begin speaking English with a



Spanish accent. Most people with foreign accent syndrome also show symptoms of a psychological or neurological condition. They might have schizophrenia or depression, a recent brain injury, or a medical condition, such as MS or dementia, that damages the brain. A person whose foreign accent changes slightly or who develops a new accent after living abroad would not be considered to have foreign accent syndrome.

A person with foreign accent syndrome may seek treatment because they or someone they know noticed the change in their speech. In some cases, however, foreign accent syndrome presents secondary to another symptom. In this scenario, a person seeking emergency psychiatric care might also have an unusual accent, or a head injury survivor may develop a new speech pattern. No specific test can assess for foreign accent syndrome. Instead, doctors work to diagnose the cause using a variety of tests, including blood tests to test for infections and some illnesses, brain scans, such as MRI scans, to look for lesions or damage in the brain, a lumbar puncture, to test for infections in the spinal fluid and to check for signs of certain central nervous system conditions, a complete medical history, to determine when the symptoms

appeared and what may have caused them, and psychiatric screenings, such as assessments for depression and schizophrenia. If a doctor cannot find a physiological cause, they will usually diagnose a person with psychogenic foreign accent syndrome and work to identify a possible psychological cause.

Foreign accent syndrome itself is not dangerous. However, it may warn of a serious medical condition, such as a tumor or lesion in the brain, dementia, or MS. In these cases, treatment will focus on addressing the cause of the foreign accent syndrome. A doctor might prescribe medication for conditions such as MS or surgery for certain brain growths. When there is a psychiatric cause, a doctor may recommend therapy, medication, or both.

Many causes of foreign accent syndrome are not curable, though medication can help manage symptoms. In most cases, a doctor will recommend speech therapy to help a person regain their normal habits. When the cause of foreign accent syndrome is unclear — such as in the case of the woman who developed it following dental surgery — speech therapy may be the only treatment option. **T**



# SEEING CLEARLY AFTER TBI

## Vision rehabilitation after traumatic brain injury

Traumatic Brain Injury (TBI) disrupts the normal functioning of the brain due to a strike or jolt to the head. This can cause vision problems, such as blurred or double vision, and difficulty with eye movements, focus, and tracking. This can result in headaches, dizziness and nausea—especially when someone who has suffered a TBI needs to retain focus on a fixed point or task. Over 10 million TBIs occur annually around the world and around 57 million people have been hospitalized for a TBI at some point in their lives.

Studies show that over 90% of Traumatic Brain Injury patients suffer some form of visual dysfunction, yet vision problems tend to be overlooked during the initial treatment of a brain injury. At times, vision problems don't manifest until some time has passed—so make sure to pay close attention to any vision changes you may experience following a concussion or head trauma. If you notice any alterations in your vision, contact our optometrists right away. The eye doctor will determine the causes of the vision change and will provide the appropriate vision therapy treatment.

Often the affected person with a TBI is not aware of their specific vision dysfunction but might complain of one or more of the signs below: Traumatic Brain Injuries tend to interrupt the communication between the eyes and the brain, which can cause a range of visual dysfunctions. The signs often include:

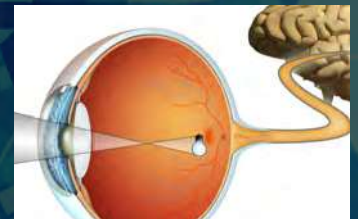
- Blurred vision
- Eyestrain
- Sensitivity to light
- Reading difficulty
- Attention and concentration difficulty

Below is a more detailed list of the common vision problems that can result from brain injury or a medical condition, such as a stroke, tumor, aneurysm, meningitis, cerebral palsy, and other neurological insults.

**Visual Acuity** – Blurry vision, either all the time or can shift in and out of focus.

**Eye focusing** – Inability to quickly change focus from near to far objects.

**Eye teaming** – The eyes not working in tandem, potentially causing double vision.



After the optic nerve exits the eyeball from the back of each eye, it travels a short distance before the nasal fibers (the optic nerve fibers on the side of the eye closer to the nose) from each eye cross over to the opposite side (make an "X") as they continue traveling toward the brain.



**Eye Movements** – Difficulty following a moving object or losing one's place while reading.

**Motion Sensitivity** – The disruption of the connection between vision integration and balance system which makes it difficult to process motion properly. This can cause vertigo or unease when traveling, scrolling a digital device, or when in busy environments such as grocery stores, social settings, or sporting events.

**Visual Field Loss** – The partial or complete loss of peripheral vision. Visual field loss may cause one to bump into objects, be struck by approaching objects, or experience frequent falls.

**Visual Memory Loss** – Losing the ability to recall or remember visual information stored in long or short-term visual memory. This can have a devastating impact on daily functioning as the individual no longer recalls numbers, words, pictures, or any data viewed in the past. Reading comprehension decreases, and the ability to recognize locations and faces declines. One may not remember where a specific object—such as a car key—was put or how to give directions.

**Headaches or Eye Pain** – Following head trauma, the individual may experience a range of headaches or even a stabbing pain around the eye — at times accompanied by redness, burning, or itching of the eyes

**Sensitivity to Light** – In the aftermath of a brain injury, one can develop sensitivity to light and be unable to tolerate glare. Also known as photophobia, sensitivity to light can be exacerbated by particular light sources, such as bright sunlight and fluorescent lighting. LCD screens, used for computers or smartphone devices, can be particularly intolerable after a concussion.

People of all ages who develop visual dysfunction due to a neurological trauma or injury can benefit from a vision assessment by a Neuro-Optometric Rehabilitation Optometrist (neuro-optometrist). These eye care professionals are highly trained in the diagnosis, treatment and rehabilitation of neurological conditions that affect the visual system, as well as perceptual and motor disorders. Research studies show that patients having undergone a vision rehabilitation program can vastly improve their quality of life.

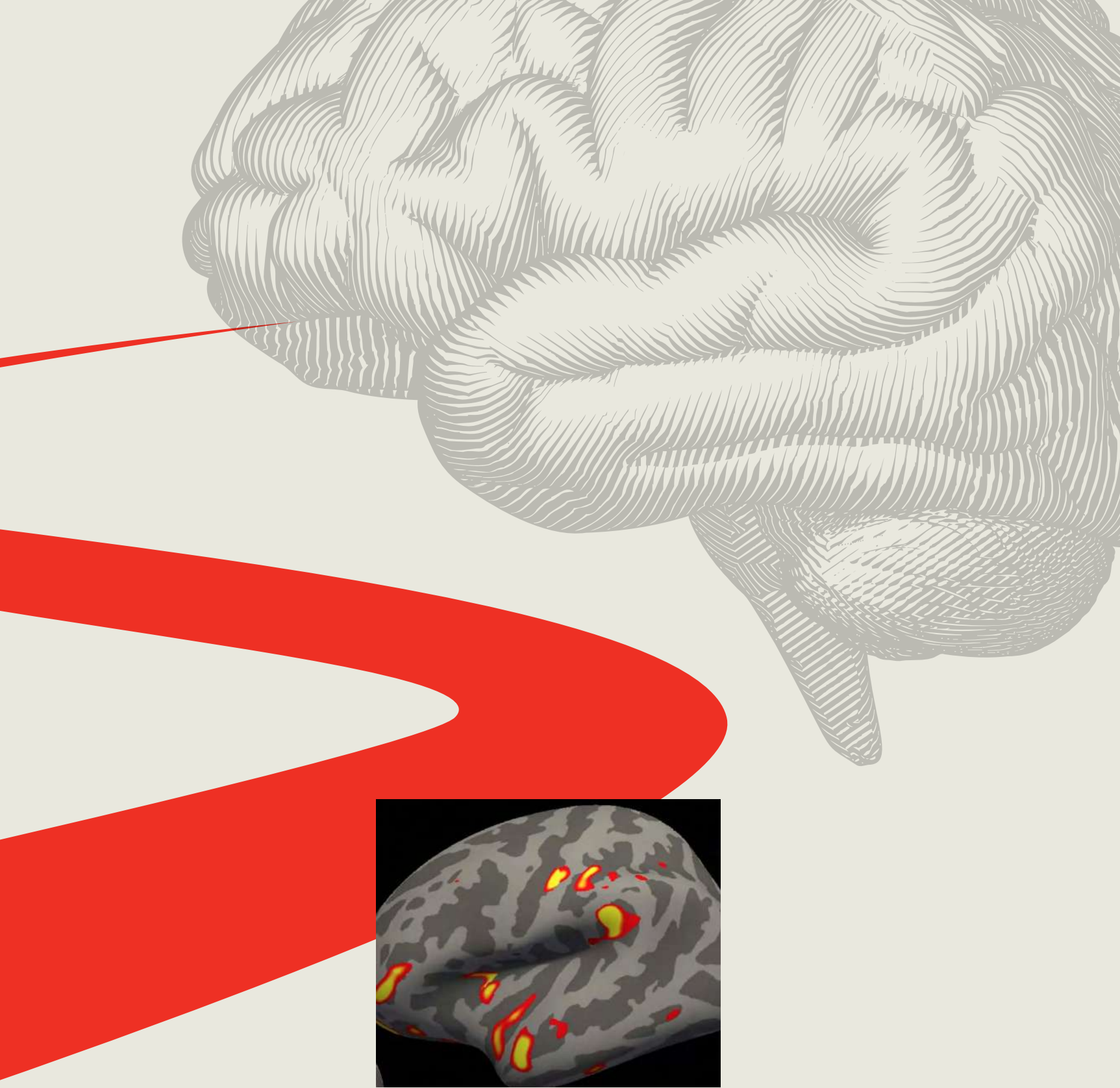
An interdisciplinary rehabilitation team is essential for patients with concussions, strokes or other neurological deficits. In addition to optometrists, team members may include nurses, physical therapists, occupational therapists, speech-language pathologists, physical medicine doctors, neurologists, neuropsychologists, audiologists, and ophthalmologists, among others. ■



FEATURE

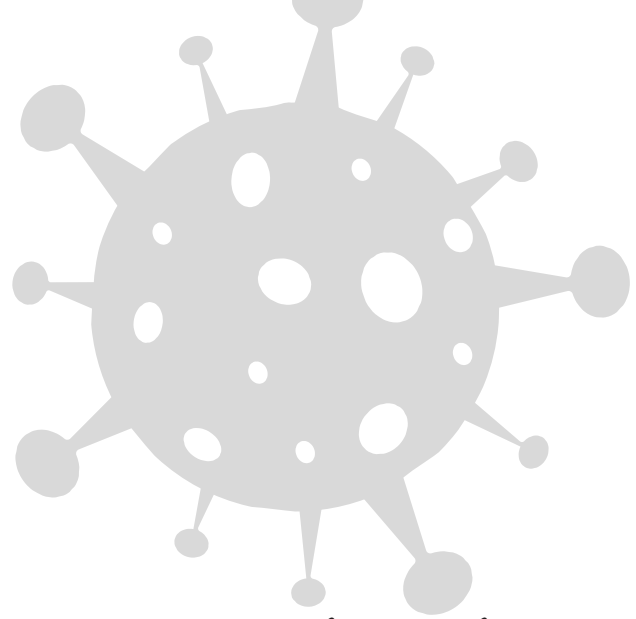
# LONG-HAUL COVID *and* THE BRAIN





A close look at the post-COVID brain.





**M**ild or moderate COVID-19 lasts about two weeks for most people. But in some, the long-term effects of COVID-19 can cause lingering health problems and wreak havoc for months. Tae Chung, M.D., a specialist in neurology and physical medicine and rehabilitation; Megan Hosey, Ph.D., an expert in rehabilitation psychology; Arun Venkatesan, M.D., Ph.D., a specialist in neurology; Amanda Morrow, M.D., an expert in pediatric rehabilitation medicine; and Ann M. Parker, M.D., Ph.D., who specializes in lung disease and critical care, discuss long-term COVID-19, what symptoms are most common and what those affected by them can expect

Mild or moderate COVID-19 lasts about two weeks for most people. But others experience lingering health problems even after the fever and cough go away and they are no longer testing positive for the illness. Parker notes that the World Health Organization has developed a definition for post-COVID-19 condition (the WHO's term for long COVID) as coronavirus symptoms that persist or return three months after a person becomes ill from infection with SARS CoV-2, the coronavirus that causes COVID-19. Those symptoms can include fatigue, shortness of breath and cognitive problems. The symptoms can come and go, but have an impact on the person's everyday functioning, and cannot be explained by another health problem.

### WHAT CAUSES POST-COVID SYNDROME?

While it's clear that people with certain risk factors (including high blood pressure, smoking, diabetes, obesity and other conditions) are more likely to have a serious bout of COVID-19, there isn't a clear link between these risk factors and long-term problems. In fact, long COVID can happen in people who have mild symptoms, although patients with more severe initial illness seem to be more likely to have long-term impairments. More studies will shed light on why these stubborn health problems persist in some people.

SARS-CoV-2 can attack the body in a range of ways, causing damage to the lungs, heart, nervous system, kidneys, liver and other organs. Mental health problems can arise from grief and loss, unresolved pain or fatigue, or from post-traumatic stress disorder (PTSD) after treatment in the intensive care unit (ICU).

Doctors are seeing a spectrum of symptoms after acute COVID-19, some of which would be expected after other critical illnesses. Some are minor, but other people may need continuing care and even readmission to the hospital.

Similar, lingering problems can affect patients with other serious illnesses. But it is notable that post-COVID-19 syndrome is not just afflicting people who were very sick with the coronavirus: Some patients who were never severely ill with COVID-19 are experiencing long-term symptoms.

### DO COVID VACCINES PREVENT LONG COVID?

Getting vaccinated for COVID-19 lowers the risks of COVID infection. While breakthrough infections are possible, being fully vaccinated and boosted is effective in reducing the risk of hospitalization and death due to COVID. Research is ongoing about how long COVID affects people who had breakthrough COVID, but it is likely that being vaccinated reduces the risk.

### POST-COVID SYNDROME CONDITIONS

The senses of smell and taste are related, and because the coronavirus can affect cells in the nose, having COVID-19 can result in lost or distorted senses of smell (anosmia) or taste. Before and after people become ill with COVID-19, they might lose their sense of smell or taste entirely, or find that familiar things smell or taste bad, strange or different.

For about a quarter of people with COVID-19 who have one or both of these symptoms, the problem resolves in a couple of weeks. But for most, these symptoms persist. Though not life-threatening, prolonged distortion of these senses can be devastating and can lead to lack of appetite, anxiety and depression. Some studies suggest that there's a 60% to 80% chance that these people will see improvement in their sense of smell within a year.

Neurologist Arun Venkatesan, M.D., Ph.D., says, "Some individuals develop medium to long-term symptoms following COVID infection, including brain fog, fatigue, headaches and dizziness. The cause of these symptoms is unclear but is an active area of investigation

THE STUDY, INVOLVING PEOPLE AGED 51 TO 81, FOUND SHRINKAGE AND TISSUE DAMAGE PRIMARILY IN BRAIN AREAS RELATED TO SENSE OF SMELL; SOME OF THOSE AREAS ARE ALSO INVOLVED IN OTHER BRAIN FUNCTIONS.

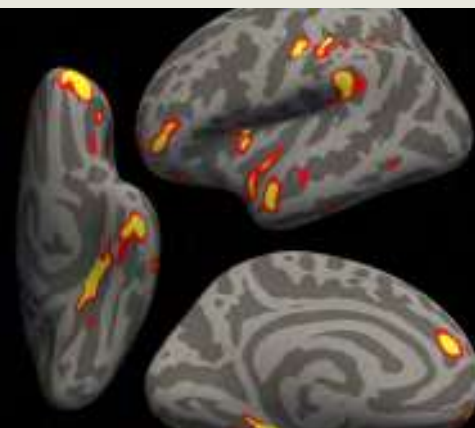
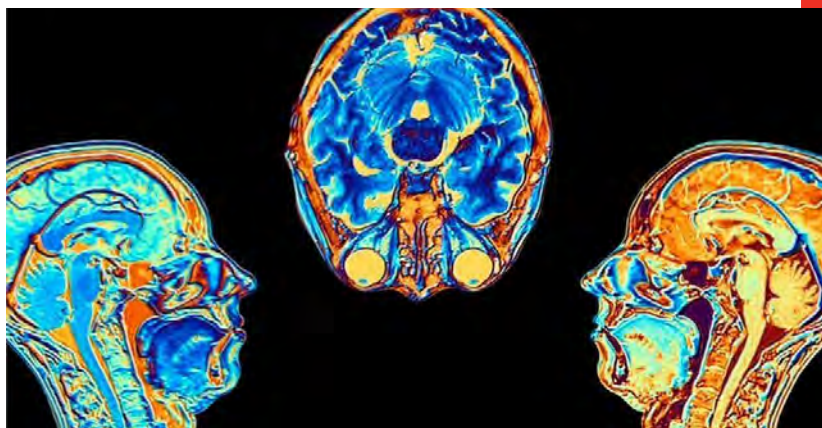
Can COVID-19 increase a person's risk for anxiety, depression and cognitive issues? A study of COVID-19's impact on mental and emotional well-being conducted by Johns Hopkins experts in psychiatry, cognition (thinking, reasoning and remembering) and mental health found that these problems were common among a diverse sample of COVID-19 survivors.

Cognitive impairment after acute coronavirus infection can have a severe impact on a person's life. Long-haul COVID patients may experience changes in the way they think, concentrate, speak and remember, and these symptoms can affect their ability to work or even maintain activities of daily living.

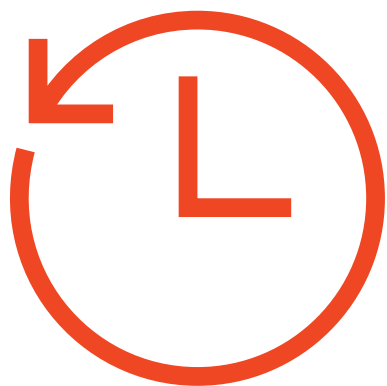
After recovering from the coronavirus, some people are left with lingering anxiety, depression and other post-COVID mental health issues. Physical changes such as pain and weakness can be complicated by long periods of isolation, stress from job loss and financial difficulties, and grief from the deaths of loved ones and the loss of good health.

The relationship between COVID-19 and diabetes, especially type 2 diabetes, is complex. Type 2 diabetes is a risk factor for serious cases of COVID-19, and some survivors of the illness seem to be developing type 2 diabetes signs after they recover from COVID-19.

It's not yet known whether children who have had COVID-19 are more or less likely than adults to experience continuing symptoms. But long-term COVID-19 in children is a possibility, showing up as fatigue, headaches, difficulty with school work, mood concerns, shortness of breath and other long-hauler symptoms. ■







# Life After COVID-19

*A NEGATIVE COVID TEST DOESN'T MEAN YOU'RE OUT OF THE WOODS. 'LONG-COVID' SYNDROMES AND CONDITIONS SUCH AS SEVERE POST-COVID COSTOCHONDRITIS IN CHILDREN AND MANY OTHERS CAN BE DEVASTATING.*







## SEVERE POST-COVID COSTOCHONDRITIS

Although children comprise the fewest cases of COVID-19 infection, symptoms and complications among the various age groups affected, new long-term consequences are being reported including severe costochondritis.

Post-COVID costochondritis (PCC) is an inflammation of the cartilage that connects a rib to the breastbone. The syndrome causes pain and tenderness on the breastbone, pain in more than one rib, or pain that gets worse with deep breaths or coughing. Patients will experience sharp or aching pain which can start suddenly or develop slowly and spread across the chest. Because of the location of the pain, the symptoms are sometimes misinterpreted as a heart attack.

Costochondritis usually goes away on its own, although it might last for several weeks or longer. Treatment focuses on pain relief with traditional treatments including injections to relieve pain and medications — though PCC, in many cases, is unresponsive to these treatments. Physical therapy in the form of gentle stretching exercises for the chest muscles might be helpful.

Medications used to treat PCC may include nonsteroidal anti-inflammatory drugs. Some of these drugs, such as ibuprofen

(Advil, Motrin IB) or naproxen sodium (Aleve), can be purchased over the counter. Stronger versions are available by prescription. Side effects of these medicines can include damage to the stomach lining and kidneys. Narcotics may also be used if pain is severe, however, are avoided when possible because they can be habit-forming. Antidepressants such as amitriptyline are often used to control chronic pain — especially if the pain interferes with sleep and anti-seizure medication such as gabapentin (Gralise, Neurontin) has also proved successful in controlling chronic pain caused by PCC. In a study conducted at the School of Medicine, Texas Tech University Health Sciences Center in Lubbock, Texas, researchers found that PCC in some cases may respond to treatment with colchicine, an anti-inflammatory.

Another option is a procedure called transcutaneous electrical nerve stimulation (TENS), in which a device sends a weak electrical current via adhesive patches on the skin near the area of pain. The current is thought to possibly interrupt pain signals, preventing them from reaching the brain. If conservative measures are not successful, the injection of numbing medication and a corticosteroid directly into the painful joint is also an option.





## CARDIOVASCULAR CONDITIONS

A study published in *Nature Medicine* by researchers at the Veterans Affairs (VA) St Louis Health Care System, found that in the year after recovering from the illness's acute phase, patients had increased risks of an array of cardiovascular problems, including abnormal heart rhythms, heart muscle inflammation, blood clots, strokes, myocardial infarction, and heart failure. What's more, the heightened risks were evident even among those who weren't hospitalized with acute COVID-19. Patients with more severe disease—determined by whether they recuperated at home, were hospitalized, or were admitted to the intensive care unit—had higher risks. But the risks were evident even among those who were not hospitalized with COVID-19. Other subgroup analysis found increased risks regardless of age, race, sex, obesity, smoking, hypertension, diabetes, chronic kidney disease, hyperlipidemia and preexisting cardiovascular disease.

## RESPIRATORY ISSUES

Severe cases of COVID-19 can produce scarring and other permanent problems in the lungs. This is likely due to a combination of the body's exaggerated immune system reaction to the virus, and the lung inflammation it triggers. Even mild infections can result in persistent respiratory distress — causing shortness of breath after even light exertion. Lung recovery after COVID-19 is possible, but takes time. Experts say it can take months for a person's lung function to return to pre-COVID-19 levels. Breathing exercises and respiratory therapy can help. Researchers from the University of Iowa recently conducted a study to understand the long-term effects of COVID-19 on lung function. The study enrolled 100 adults with a confirmed SARS-CoV-2 infection who remained symptomatic for more than 30 days following the diagnosis, with a control group of 106 healthy participants. The results provided evidence of airway damage many months after the initial SARS-CoV-2 infection.



## CHRONIC FATIGUE

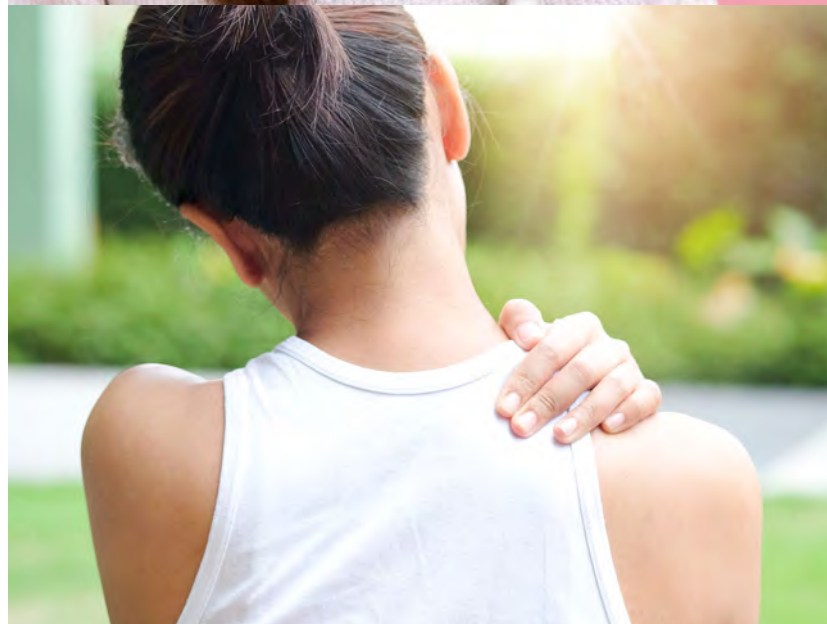
A team of researchers, including two from Johns Hopkins Medicine, have published a review article highlighting similarities between certain lingering symptoms following COVID-19 illness — a condition called “long COVID” — and myalgic encephalomyelitis/ chronic fatigue syndrome (ME/ CFS), a debilitating, complex disorder previously known as chronic fatigue syndrome. The researchers say the symptoms shared by the two conditions may involve a biological response that goes haywire when the body encounters certain infections or other environmental hazards. “The body’s response to infection and injury is complex and covers all body systems,” says the study’s lead author Bindu Paul, Ph.D., assistant professor of pharmacology and molecular sciences at the Johns Hopkins University School of Medicine. “When that response is in disarray — even just one aspect of it — it can cause feelings of being tired, brain fog, pain and other symptoms.”

## LOSS OF TASTE AND SMELL

The senses of smell and taste are related, and because the coronavirus can affect cells in the nose, having COVID-19 can result in lost or distorted senses of smell (anosmia) or taste. Before and after people become ill with COVID-19, they might lose their sense of smell or taste entirely, or find that familiar things smell or taste bad, strange or different. For about a quarter of people with COVID-19 who have one or both of these symptoms, the problem resolves in a couple of weeks. But for most, these symptoms persist. Though not life-threatening, prolonged distortion of these senses can be devastating and can lead to lack of appetite, anxiety and depression. Some studies suggest that there’s a 60% to 80% chance that these people will see improvement in their sense of smell within a year.

## MUSCULOSKELETAL CONDITIONS

Recent studies have suggested that musculoskeletal symptoms, including joint and muscle pain, are present in many COVID-19 patients after the acute phase of infection, persisting for weeks or even months after the initial infection. Comprising 40% of the human body weight, the skeletal muscle is an important organized tissue composed by numerous bundles of myofibers. It has a crucial mechanical role, generating force and power through the conversion of chemical to mechanical energy, which yields movement, facilitating our daily activities. Furthermore, skeletal muscle can store energetic substrates (carbohydrates and amino acids) for the basal metabolism and it can contribute to heat production, stabilizing the body’s temperature. Considering the multiple functions of the musculoskeletal system and the fact that COVID-19 is a multi-organ disease, it isn’t surprising that musculoskeletal issues may arise from infection.







## SLEEP DISORDERS

“Sleep disorders are one of the most common symptoms for patients who’ve had COVID-19,” says sleep medicine specialist Cinthya Pena Orbea, MD. “They report insomnia, fatigue, brain fog and sometimes we even see circadian rhythm disorders.” Coined “coronasomnia,” COVID-19-induced insomnia is often attributed to pandemic-related stress, anxiety, depression and other mental health conditions. According to Dr. Orbea, many people have a delayed sleep cycle, causing them to fall asleep much later in the evening or earlier in the morning. This delayed cycle extends into the following day, causing people to feel groggy, have chronic fatigue or wake up later than they prefer. “Sleep is extremely important for the overall function of our bodies, including our metabolic systems and our immune systems,” explains Dr. Orbea. “Since sleep is important for concentration and memory function, it will enhance how patients recover from the disease and impact their quality of life.”

During illness, the immune system’s response to an infection can have a profound effect on sleep. Likewise, getting adequate, good quality sleep is crucial for your immune system to work optimally. In long COVID, if the immune system is still not functioning normally, the body will be constantly trying its hardest to reduce the inflammation. This could explain why so many people with long COVID report fatigue and sleep difficulties as major symptoms. It’s also thought that inflammation can come and go during long COVID, which would mean that the body is constantly having to work to keep everything in balance. When the body is having to deal with chronic inflammation, sleep can be reduced and sleep quality can be compromised.

## PERIPHERAL NEUROPATHY

Some patients with long COVID may have long-lasting nerve damage resulting in weakness, numbness and pain, usually in the hands and feet. This condition, known as peripheral neuropathy, appears to be caused by immunity problems triggered by infection according to a new study published in the journal *Neurology: Neuroimmunology & Neuroinflammation*. “This is one of the early papers looking into causes of long COVID, which will steadily increase in importance as acute COVID wanes,” said Anne Louise Oaklander, MD, the lead study author and a neurologist at Massachusetts General Hospital. “Our findings suggest that some long COVID patients had damage to their peripheral nerve fibers and that damage to the small-fiber type of nerve cell may be prominent.” The study found that 10 patients — or 59% — had at least one test that confirmed neuropathy. Two patients had rare neuropathies that affected muscle nerves and 10 were diagnosed with small-fiber neuropathy, which is a cause of chronic pain. Common symptoms included fatigue, weakness, changes in their senses, and pain in their hands and feet.



## COGNITIVE DEFICITS

Post COVID neurological problems have been commonly reported and include cognitive or memory disturbances, headache and myalgia. Acute neurological diagnoses include encephalopathy, delirium, cerebrovascular disease, seizures, neuropathy and myopathy. Less frequently reported problems include abnormal movements, psychomotor agitation, syncope and autonomic dysfunction. Another common complaint amongst post COVID patients is brain fog, a term used to describe slow or sluggish thinking. Brain fog can occur under many different circumstances — for example, when someone is sleep-deprived or feeling unwell, or due to side effects from medicines that cause drowsiness. Brain fog can also occur following chemotherapy or a concussion. In many cases, brain fog is temporary and gets better on its own. However, we don't really understand why brain fog happens after COVID-19, or how long these symptoms are likely to last. But we do know that this form of brain fog can affect different aspects of cognition.

Among patients hospitalized with COVID-19, 1 year after discharge, about half experienced clinically relevant moderate or worse diminished cognitive ability in verbal learning and executive function, according to study findings published in *European Neuropsychopharmacology*.

Lingering cognitive, neurologic, psychiatric, and physical symptoms after COVID are estimated to affect as many as 40% of all patients who contracted COVID-19 and as much as 85% of those who have been hospitalized with COVID-19. Cognitive COVID (which is long-term) is characterized by brain fog, and memory and concentration struggles, and is recognizable in about 30% of patients previously hospitalized with the virus.

COVID infection frequently leads to brain damage — particularly in those over 70. While sometimes the brain damage is obvious and leads to major cognitive impairment, more frequently the damage is mild, leading to difficulties with sustained attention. Although many people who have recovered from COVID can resume their daily lives without difficulty — even if they have some deficits in attention — there are a number of people who may experience difficulty for an extended period 📌





# WILSHIRE LAW FIRM



# WE'RE LOOKING FOR YOU!



VISIT OUR  
CAREER PAGE

## *Now Hiring!*

- Personal Injury Attorney (3+ years of experience),
- Employment, Single Action Attorney (2+ years of experience),
- Employment, Wage & Hour, Class Action (1+ years of experience),
- Personal Injury Associate Attorney, and
- Personal Injury Pre-Litigation Supervising Attorney

## APPLY NOW



STRIVE FOR EXCELLENCE | FIGHT FOR JUSTICE | FOSTER UNITY | JOIN WILSHIRE LAW FIRM







# Foothill Regional Medical Center



## FULL SERVICE SURGICAL HOSPITAL

### HOSPITAL FEATURES:

- 24 Hour emergency room
- Private inpatient surgical wing
- State-of-the-art robotic technology
- Specialized teams
- Personal patient care

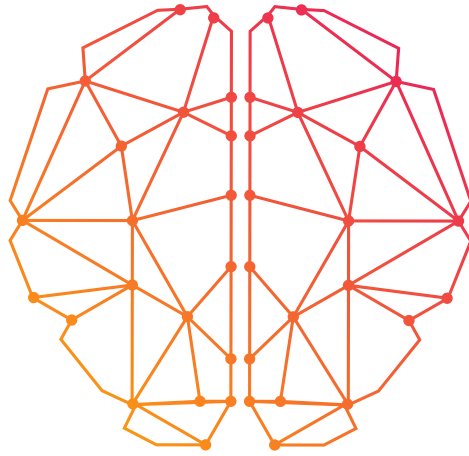
### SPECIALTIES INCLUDE:

- Joints
- Spine
- General orthopedic
- Foot/ankle/hand
- Bariatric





SPECIAL SECTION



# TBI MED LEGAL

C O N F E R E N C E







**THE  
LARGEST  
TBI CONFERENCE IN THE  
WORLD**



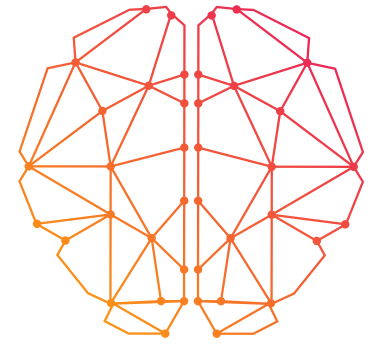
# TBI MED LEGAL CONFERENCE



## *the inspiration*

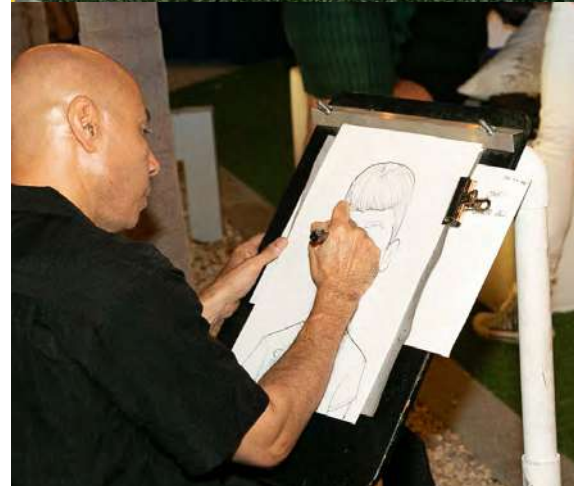
The inspiration behind the creation of the TBI Med Legal Conference came from a desire to help TBI survivors and their families. After many years litigating brain injury cases, TBI Med Legal Conference cofounder and Brain Injury Association of America Chairman Erica Chavez, Esq. recognized the need to bring medical and legal professionals working in brain injury together to foster a cross-pollination of information between the two industries.





# the evolution

As both personal injury law and medicine evolve, so will the TBI Med Legal conference. Our coordinators will always strive to bring our attendees the most informative and engaging content informed by real-time industry experience. We will always provide an optimized, multi-track experience designed to empower and educate attendees on the most current and up-to-date topics that will help them take their businesses to the next level.







## what's new

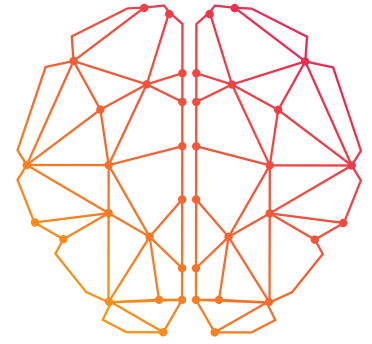
### LIVE LABS

This year we are proud to introduce live labs where attendees can assist in the dissection of a brain, perform a discectomy or laminectomy, insert a spine stimulator or inject an epidural on a real cadaver. With these hands-on experiences, our goal is to bring the medical and legal communities every closer together to foster a shared understanding of our industry.

### STAFF TRACK

This special track, open only to staff members, will focus on day-to-day case management issues and education.





## what's next

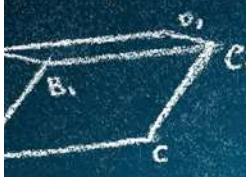
At TBI Med Legal we are always looking towards the future to identify new experiences that will benefit both attendees and exhibitors alike. With the industry changing at a rapid pace, so will our offerings each and every year, with our core mission remaining the same — to bring together the nation's leading TBI doctors and lawyers to educate attendees on how to handle a traumatic brain injury cases from injury through trial. Physicians will educate attendees on the medical aspect of a TBI case and attorneys will educate attendees on the litigation strategy and skills required for the best case outcomes.





$$\ln|x + \sqrt{x^2 \pm a^2}| + C \quad (a+b)^2 = a^2 + 2ab$$

$$\overline{A} \cdot (B + \overline{C}) = y = kx + m$$



$$x \in [3; +\infty)$$
$$\sinh x = -i \sin(ix)$$

$$\frac{1}{2\pi} \exp\left(-\frac{(x-\mu)^2}{2\sigma^2}\right) \quad U = \int_0^b \pi f^2(x)$$

$$\forall \epsilon > 0 \exists N \in \mathbb{N} \forall n$$

$$\sigma \sinh(x) = -e^x$$

$$dx = \frac{x^{n+1}}{n+1} + C$$

$$\log(x)$$
$$c + \sin B \cdot \sin$$

$$\log a + \log$$



$$\ln(a-b)$$

$$e^x \quad \cos x = \operatorname{Re}\{e^{ix}\} \quad x^1 = 1$$





# *examine*

**THE LATEST IN TRAUMATIC BRAIN INJURY  
RESEARCH AND TREATMENT**



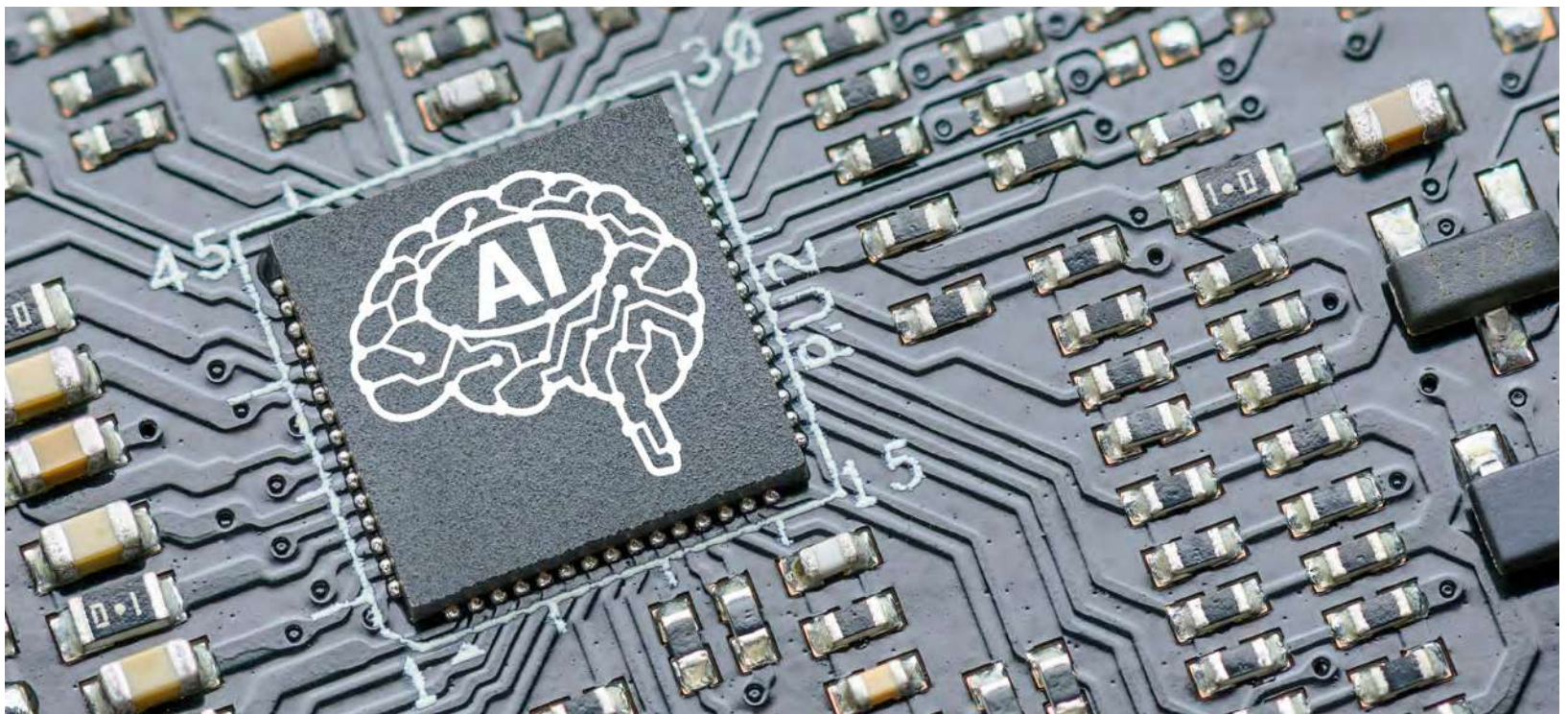


1

# RESEARCH + INNOVATION



# CUTTING EDGE SOFTWARE DETECTS CONCUSSION



Concussions are a major issue, not just for athletes, but for a wide range of professions. These, along with other types of brain injuries, are usually identified by the eyes. Normally, pupils are able to dilate when the light around them changes, starting small in bright areas and growing bigger in dark ones, changing size often in under a second. With a concussion, however, this reaction time for the change in the pupil is delayed, which is one of the major ways of identifying such an injury. The sooner a traumatic brain injury is recognized, the better it will be for the patient, and the lower the chance of permanent brain damage in severe cases.

The Capstone Marketplace, which develops technology for the defense industry under the Systems Engineering Research Center, sponsored the project in conjunction with the United States Army Special Operations Command.

Currently, much of the technology used to diagnose a traumatic brain injury is expensive, time-consuming, requires special training in order to accomplish, and definitely isn't suited for a combat environment.

The project team decided to create a software that could

detect concussion simply from a video. Using MATLAB, the team developed code for breaking down the video frame by frame, changing the color to black and white, and analyzing the size of the pupil as it was exposed to bright light.

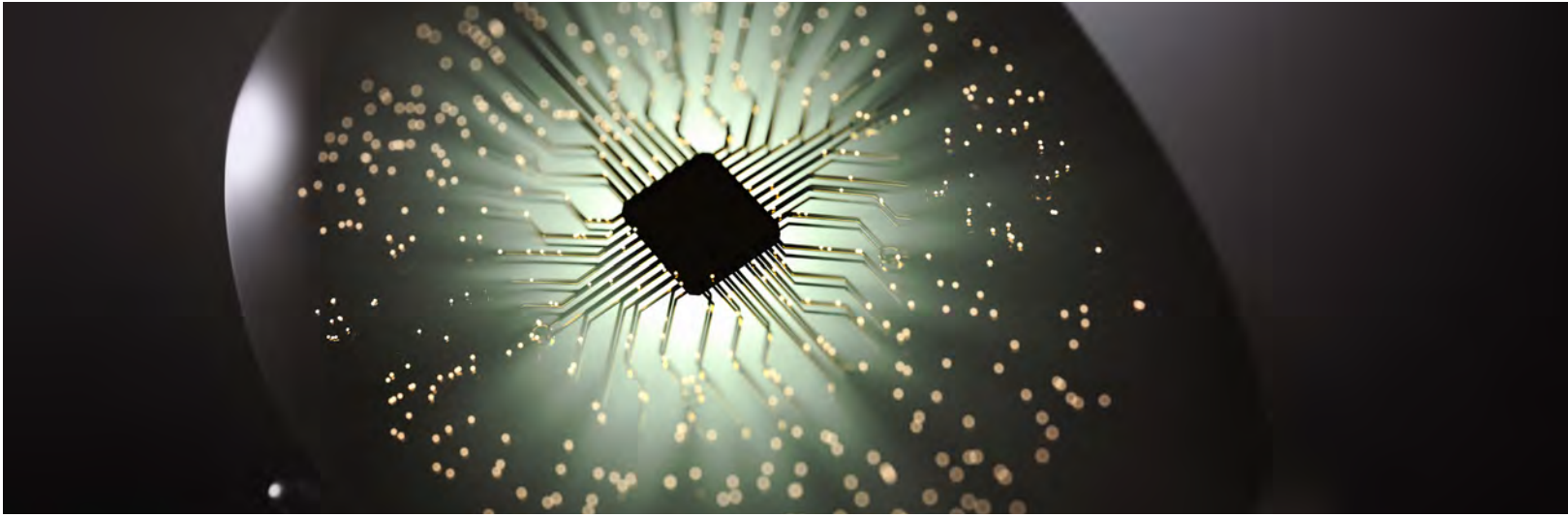
This way, the reaction time for the pupil's dilation could be calculated, determining whether or not the person in question has a concussion. As for accessibility, the software could be developed to be used on a smartphone or tablet.

This development was not without its problems. Brown eyes often resulted in a lower contrast between the pupil and the rest of the eye, making it harder for the pupil to be identified. Furthermore, areas with different, more ambient lighting proved to be difficult when it came to finding the reaction time of the pupil.

While the tool is still in development and being perfected, it represents an important step towards recognizing and treating brain injuries as soon as they happen. Having a versatile and easily available tool for identifying concussions would be a huge benefit, not only in a combat situation but for the medical industry as a whole. ■



# CENSOR TRACKS BRAIN INJURY BIOMARKERS



Scientists have successfully tested in the lab a tiny biosensor they developed that can detect biomarkers tied to traumatic brain injuries. In a study published recently in the journal *Small*, the Ohio State University researchers say their waterproof biosensor includes an “unprecedented combination of features” that may allow it to detect changes in the concentrations of various chemicals in the body and send the results to researchers in real time.

The chip is flexible and thinner than a human hair, making it minimally invasive for use in the brain. “We have a long way to go from our tests in the lab, but these findings were very encouraging,” said study co-author Jinghua Li, assistant professor of materials science and engineering at Ohio State.

Although a biosensor such as the one the team developed could have many potential uses, Li and her co-authors were particularly focused in this study on how the sensor could be used to monitor patients with traumatic brain injuries (TBI). After such an injury, secondary damage can occur that can be detected by changes in sodium and potassium ion concentrations in the brain’s cerebrospinal fluid, said Li, who is a member of Ohio State’s Chronic Brain Injury (CBI) Program.

“We want a biosensor that is able to continuously monitor brain tissues to detect changes in ion concentrations in the cerebrospinal fluid,” she said. “Those changes emerge at the secondary state of TBI as an early warning signal of the condition worsening.”

The researchers tested the biosensor in an artificial solution they created to mimic cerebrospinal fluid and found that it could accurately detect changes in potassium and sodium ion

levels that are important in TBI. In addition to the tests with the artificial cerebrospinal fluid, the team also tested the biosensor in human blood serum, in which they successfully monitored pH levels. The chip features electronic components (known as field-effect transistors) that, upon sensing the chemical of interest, produce an electrical signal that can be detected and analyzed outside the body. Importantly, the researchers developed calibration standards that address what is called the “crosstalk” issue.

“When we create a biochemical sensor, we want to make sure that the device only responds to the specific chemicals we are interested in, and ignores the crosstalk from other biomarkers,” Li said. “That is difficult to do in a complex system like our body.” While a biosensor has to be able to detect changes in the fluid in the brain, the electronics in the chip must be protected from these same fluids, Li said.

A waterproof encapsulation made from a thin film of silicon dioxide – forged in temperatures above 1,000 degrees Celsius – provided high structural integrity as barrier materials in a fluid environment, the study found. How long could the encapsulation last in a human body? The researchers tested the material in a variety of ways, such as by placing it in heated fluid and in substances with different pH levels.

The findings suggest the waterproof encapsulation with a thickness of several hundreds of nanometers could last at least a few years at body temperature and possibly much longer, Li said. The biggest issue right now is with the chemical sensing elements, which the study suggests would work for only up to a few weeks. ■

# TBI DURING PREGNANCY MAY EFFECT FETUS



Results from a new research study at the University of Arizona College of Medicine – Phoenix, in collaboration with Barrow Neurological Institute at Phoenix Children’s Hospital, provide evidence that when a pregnant woman suffers traumatic brain injury (TBI), her unborn baby is also harmed. Pregnant women have risk for TBI from falls and motor vehicle collisions, as well as intimate partner violence (IPV).

The study led by Jonathan Lifshitz, PhD, professor of Child Health at the UArizona College of Medicine – Phoenix, found multiple lines of evidence to support that a mother’s TBI interrupts the unborn baby’s brain development, similar to the adverse effects of alcohol, drugs, Zika and German Measles during pregnancy. Gravida TBI (gravida is the medical term for pregnancy) changes the brain development of the baby and later the offspring show evidence of depression, anxiety and an altered immune response. Among the study’s findings, male offspring showed more outcome measures were affected post-partum

“We’re really concerned that the effects of brain injury in a pregnant individual can travel through the blood stream and disrupt the development of the unborn child. This study shows that gravida TBI in mothers can have transgenerational effects on children, where more research can determine how the trimester of pregnancy, genetics and environmental conditions affect risk,” said Dr. Lifshitz.

For women, TBI and IPV are closely related and typically cause a domino health impact for them, and now for their unborn children. Sixty to 90 percent of women who suffer IPV assaults also sustain a TBI. When intimate partner violence becomes physical, the attack is usually directed to the head, neck and face, which causes a TBI or concussion. Women experience IPV and TBIs regardless of age, sex, socioeconomic background or culture, and the root cause of these injuries go unreported to health care providers. In addition, IPV is the leading cause of death in women of childbearing age and when women are pregnant, it significantly increases the risk and severity of IPV. A retrospective study at the Barrow Neurological Institute and the 2010 Summary Report of the National Intimate Partner and Sexual Violence Survey (NISVS) indicates that one in three females will experience IPV in some form during their lifetime, but only 21 percent of victims will seek medical treatment for physical assault.

The research study also suggests these children should be closely followed by their health care providers due to potential neurodevelopmental issues. **II**





# 2

## TREATMENT

# PHARMACEUTICAL TREATMENT OPTIONS FOR TBI



There is growing evidence that medications may speed traumatic brain injury (TBI) recovery by enhancing some neurological functions without impacting others. Pharmacotherapy is increasingly being used in both the subacute (less than 1 month post-TBI) and chronic (more than 1 month post-TBI) phases.

Disabilities arising from TBI that have a direct impact on functioning and rehabilitative potential can be broadly classified into four main categories: decreased level of consciousness (LOC), and neuropsychiatric, neurocognitive, and neurobehavioral sequelae.<sup>5-8</sup> Decreased level of consciousness refers to a diverse range of clinical states including coma, vegetative states, akinetic mutism, and locked-in states.

Neuropsychiatric symptoms may present as mood disorders, posttraumatic stress disorder, and personality changes characterized by disinhibition and egocentricity. Neurocognitive injuries vary, but most frequently involve impaired attention, memory, and executive functioning.

Neurobehavioral deficits distinct from neuropsychiatric sequelae may take the form of irritability, hyperexcitability, nervousness, disinhibition, poor impulse control, restlessness, and aggression, with aggression and agitation seen in as many as 30% of brain-injured patients.

Depending on the location of injury, damage can occur to a variety of neurotransmitter networks critical to cognitive processes. Investigation has focused on the loss of dopaminergic neurons that regulate executive functioning, as well as deficits in norepinephrine and acetylcholine, which limit attention — a critical function for effective rehabilitation. Fortunately, a number of pharmacological interventions show promise in helping patients cope with these losses and deficits.

The decision to use pharmacological intervention should be the result of multidisciplinary collaboration and made with the patient or his or her substitute decision maker. Goals of therapy should be clarified, and outcomes and adverse events should be reliably tracked, particularly so medications that are ineffective or cause adverse events can be discontinued and unnecessary polypharmacy can be avoided. Selecting the most appropriate agent requires careful analysis of the neurological disabilities present, the nature of the underlying lesion, and the time elapsed since the injury. **■**



# HOW ANIMAL THERAPY CAN HELP TBI SURVIVORS

Animal-assisted therapy, or AAT, is just what it sounds like — animals facilitating healing and rehabilitation. AAT is different from animal visitation programs, when animals visit facilities with their owners. Animals used for AAT are specially trained and can be owned by the patient or the therapist themselves.

The benefits of animal-assisted therapy are large and diverse. Just as each rehabilitation case is unique and requires its own form of rehabilitation medicine and rehabilitation plan, each relationship between animal and patient brings its own results. Some benefits of AAT include improved fine motor skills and balance, reduced blood pressure and risk of heart attack or stroke, increased self-esteem and ability to take care of oneself, improved social skills, focus, and attention, increased empathy, trust, and teamwork, reduced stress, anxiety, grief, and isolation.

After a traumatic brain injury, people often suffer from problems with social interaction. For example, they may have difficulty interpreting facial expressions, tone of voice, or other forms of emotional processing. Many victims of TBIs experience personality changes, which causes stress in relationships and their social life. Family and loved ones often describe a lack of warmth, love, and connection after the traumatic injury and that symptom places a large burden on the relationship.

Animals can help TBI patients learn to reconnect with others in a lower-stakes environment. Animals can teach people that no matter what they're feeling or how they're reacting, they are worthy of love and belonging. Animals can also be a mediator between the patient and the people they are interacting with. Dogs are also used to assist individuals with mobility issues and can be trained to carry personal items or assist their partner in other ways.

More so, the presence of an animal calms the nervous system and helps with moderating reactions to stimuli. Individuals with severe brain injury often have little control over their lives, and owning an animal of any kind can be an opportunity to have control over at least one part of their lives. Animals also have a calming effect for stroke victims and nonverbal individuals. ■



# THE INJECTION THAT CAN STOP TBI IN ITS TRACKS



The CRASH-2 Intracranial Bleeding Study highlighting the potential of the cheap, off-patent drug to help people suffering from brain trauma is published online by the British Medical Journal.

According to the collaborators -- led by the London School of Hygiene & Tropical Medicine -- the results provide strong grounds to test the effect of this treatment in a larger and definitive study. The forthcoming CRASH-3 trial will determine reliably the effectiveness of tranexamic acid in patients with head injury.

Every year millions of people world-wide are treated for head injury. Unfortunately, currently there is no proven effective treatment for this life threatening condition, which affects mainly young working people. One of the frequent complications occurring after head injury is bleeding into the head. Usually this bleeding progresses in the first hours after the injury and produces more brain damage. Because tranexamic acid reduces clot breakdown the investigators hypothesised that this drug could reduce bleeding into the

brain and therefore improve patients' outcomes.

The CRASH-2 Intracranial Bleeding Study was the first to evaluate the effect of tranexamic acid on head injury patients. The results showed that patients who receive tranexamic acid were less likely to have bleeding progression, they survive more and with less disability.

Dr Pablo Perel, who is based in the Clinical Trials Unit at LSHTM, says: "Although the results are not definitive they provide hope about the potential effectiveness of this simple drug for head injury patients. If such an inexpensive and widely practicable treatment were found to improve patient outcomes after head injury this would have major implications for clinical care."

The study involved 270 adult trauma patients with, or at risk of, significant extracranial bleeding within 8 hours of injury, who also had traumatic brain injury. It was a prospective randomised controlled trial carried out within the larger CRASH-2 trial to quantify the effect of an early short course of tranexamic acid on intracranial haemorrhage. **1**



# TRANSCRANIAL MAGNETIC STIMULATION TREATMENT



Transcranial Magnetic Stimulation (TMS) is used primarily for the aberrant mood swings experienced by TBI patients including depression, anxiety, etc. There is also evidence that TMS is beneficial for pain experienced by TBI patients. TMS is non-invasive, does not involve insertion of intravenous lines or surgery and does not require any anesthesia or sedation. A small electromagnetic coil, controlled by a computer program, is used to deliver short, powerful bursts of magnetic energy focused precisely on the left side of the brain's frontal cortex.

Cranial Electrical Stimulation (CES) is FDA approved to treat insomnia, depression, and anxiety. It was found that one to five 20-minute CES treatment sessions produced a reduction in pain ranging from 42% to 71% in the approximately 80% of patients. No negative side effects were observed, therefore CES has a positive cumulative effect in refractory patients with a wide range of pain-related disorders.

Previous analysis of the efficacy of TMS has been provided through more than 30 published trials, yielding generally consistent results supporting the use of TMS to treat depression when medications aren't sufficient. "Those previous studies were key in laying the groundwork for the FDA to approve the first device for delivery of TMS as a

treatment for depression in 2008," said Linda Carpenter, MD, lead author of the report and chief of the Mood Disorders Program and the Neuromodulation Clinic at Butler Hospital.

Because TMS can modulate brain circuits safely and painlessly, the technique has had tremendous utility for studying pain processing, said Jean-Pascal Lefaucheur, a pioneer in the field of neuromodulation for pain at the Université Paris-Est, Créteil, France. Lefaucheur and his colleagues recently reviewed some of the hundreds of small studies that have examined the effects of TMS on evoked pain in experimental settings.

Anne Louise Oaklander, a neurologist and pain researcher at Massachusetts General Hospital, Boston, US, said there is much work to be done, but the potential payoff of TMS for pain makes it well worth pursuing. "It has a huge potential advantage over pain medications," she said. Drugs move indiscriminately throughout the body, often causing side effects at non-target tissues that limit their use or even prevent them from getting into the clinic. TMS, by contrast, delivers its therapeutic effects directly to the brain, with only minor, local side effects. "That is the trump card of TMS over drugs," Oaklander said. 📌

# DEEP BRAIN STIMULATION TREATMENT



For the first time, researchers at The Ohio State University Wexner Medical Center have demonstrated the safety and effectiveness of using deep brain stimulation (DBS) in a new brain target to improve the quality of life and functioning of people with severe disability from traumatic brain injury (TBI).

“The results of this study show that DBS can significantly improve function in patients who have been impaired for up to 21 years from their initial TBI. We are excited about this study as it provides hope for future research to help patients and families affected by TBI,” said Dr. Ali Rezai, CEO of Ohio State’s Neurological Institute.

Rezai and John Corrigan, professor in the department of physical medicine and rehabilitation at Ohio State’s Wexner Medical Center, led this first-in-the-world study in which researchers investigated the use of DBS in the nucleus accumbens of four patients who had suffered severe disabling TBI from automobile crashes six to 21 years earlier. These patients had significant impairment in daily life functions, requiring continuous supervision. The goal of the study was to improve behavior and cognitive function.

“The fingerprint of TBI is damage to the frontal lobes of the brain; and a common consequence of injuring the frontal lobes is the loss of self-control,” said Corrigan, who also directs the Ohio Brain Injury Program. “We hoped to give these individuals a greater ability to regulate their own actions.”

Each year, 1.7 million Americans are treated in medical facilities as a result of TBI. While most of these injuries are mild, 25 percent are classified as moderate or severe TBI, resulting in more than 80,000 new cases of disability each year in the United States.

Severe TBI commonly damages the frontal lobe, resulting in a profound impairment in cognition and behavioral function with impairments in executive function and behavioral self-regulation, including impulsivity and poor decision-making. Despite the significant and long-lasting disabling motor, cognitive and behavioral effects of TBI, there are few treatment options for these patients. Many often live at home or in institutions, requiring constant care and supervision, with limited hope for improvements of quality of life.

“The results showed that two years following DBS, three of the four participants demonstrated behavioral and emotional improvements and substantial gains in functional independence in self-care and activities of daily living,” said Rezai, who also is director of Ohio State’s Center for Neuromodulation. **■**







*thrive*

**A CELEBRATION OF TRAUMATIC BRAIN INJURY  
SURVIVORS LIVING THEIR BEST LIVES**





---

“MY LOVE OF LIFE, FAMILY AND SPORT INSPIRES MY FIGHT BACK TO HEALTH EVERY SINGLE DAY.”

---

# JUDE

## A RECOVERY JOURNEY INSPIRED BY A PASSION FOR LOVE AND LIFE

Jude lived for the big wave and spent much of his life chasing it, even traveling as far as Ehukai Beach Park in Hawaii — home of the infamous Banzai Pipeline. This reef surf break located on the island of O’ahu’s north shore has left many surfers injured, including Jude. His entire life changed after a horrific wipeout left him with a traumatic brain injury. “The last thing I remember was thinking that the whole wave was golden,” he says. “Then everything went black.”

That day Jude was carried out of the water and resuscitated after suffering many serious blows to the head on the sharp rocks and coral below the water’s surface. He was treated at a local trauma center and released, not having sustained any life-threatening injuries. Upon returning to his daily life, Jude began experiencing debilitation symptoms including extreme headaches, unexplained emotional outbursts, and feelings of depression. “I would get really sad

and I was having suicidal thoughts,” he says. “Thank God I never followed through.”

Jude didn’t recognize himself internally anymore. “I would start crying for no reason and would look in the mirror and say to myself, ‘who am I?’” Thanks to the guidance of a close friend who had also suffered a traumatic brain injury (TBI), Jude found the treatment he needed for his symptoms. He responded particularly well to transcranial magnetic stimulation — a noninvasive form of brain stimulation in which the brain is exposed to a changing magnetic field. After just a week of daily 20 to 30-minute treatments, Jude began seeing results. Though his recovery journey continues, Jude looks to his loved ones and his passion for surfing to find inspiration. “My love of life, family and sport inspires my fight back to health every single day.” ■





**“IT DOES NOT  
MATTER HOW  
SLOWLY YOU GO,  
SO LONG  
AS YOU DO NOT  
STOP.”**

*Confucius*

# DID YOU *know?*

**CERTAIN GAMES, PUZZLES, AND FIDGET TOYS ARE PERFECT FOR TBI PATIENTS WHO NEED TO RELEARN SKILLS LIKE MEMORY, PATTERN RECOGNITION, AND ATTENTION AND ALSO DESTRESS.**

## GAMES



**GO FISH**



**UNO**



**SCRABBLE**

## FIDGETS



**SIMPLE DIMPLE**



**SILLY PUTTY**



**TANGLE**

## PUZZLES



**JIGSAW PUZZLE**



**BRAIN TEASER**



**SUDOKU**



“ WE IMMEDIATELY ESTABLISHED A PRAYER GROUP WITH MORE THAN 300 MEMBERS ALL PRAYING FOR MY HUSBAND’S RECOVERY.”

# LOUIS

## BACK ON THE ROAD WITH A NEW OUTLOOK ON LIFE

On a hot Summer afternoon, Louis left home to join a group of fellow motorcycle enthusiasts for a leisure ride on his custom 1999 Honda Shadow Aero. As he relished the warm breeze and open road a truck towing a horse trailer cut in front of the group, causing the riders to scatter. Louis crashed head-on into the trailer at approximately 40MPH, sustaining multiple severe injuries including a broken neck. Teetering between life and death and in a deep coma, Louis was flown to the nearest trauma center. Friends and family members rushed to his side. “We immediately established a prayer group with more than 300 members all praying for my husband’s recovery,” said Louis’ wife.

After 28 days in the ICU, doctors determined that Louis was stable enough to be airlifted to an acute care center where his recovery journey continued. After two weeks he was transferred to a sub-acute transitional facility where he continued his rehabilitation for the next three months. The next phase of recovery saw Louis returning home to his family who became his primary caregivers. It was touch and go for several weeks when Louis lapsed into a continual sleep semi-coma. His family feared dehydration and rushed him to the ER where doctors confirmed he had been overmedicated

With this problem rectified, Louis returned home to continue rehabilitation. As he progressed and became more stable, relieving the symptoms of his brain injury became the focus of his recovery. Louis saw many specialists who helped him regain his cognitive abilities including neurologists, speech and occupational therapists, neuropsychiatrists, and neuropsychologists, with his wife Lisa managing his care while also tending to their family and working. Needless to say, this was an extremely stressful time for the family.

Little by little Louis recovered cognitively while also adjusting to life without some of the abilities he was used to having. He became involved in the family business again, though not at the same level he had been before his accident. “It has been a balancing act between striving to recover and accepting a new reality,” says Louis. “But there is hope”. According to his family, Louis was determined to get back on his motorcycle and enjoy the open road again. Exactly one year after his accident, he attained his goal and set off on a cross country adventure. When asked if he had any concerns about riding again his response was true to his attitude throughout recovery: “We can’t focus on the past,” he says. “We have to live for today and for the future.” 📌







**“SUCCESS IS  
WALKING FROM  
FAILURE TO  
FAILURE WITH  
NO LOSS OF  
ENTHUSIASM.”**

*Winston Churchill*

# DID YOU know?

THERE ARE SEVERAL DIFFERENT STAGES OF REHABILITATION THERAPY, EACH DESIGNED TO ASSIST A PATIENT WITH PARTICULAR NEEDS.







---

“EVEN THOUGH RECOVERY IS HARD, YOU HAVE TO KEEP PUSHING THROUGH.”

---

# TANYA

## SHARING HER STORY TO INSPIRE OTHERS RECOVERING FROM TBI

Tanya experienced a severe traumatic brain injury after a serious rollerblading accident. She struggled with TBI symptoms for many years before receiving treatment, which is the case for many TBI survivors. Tanya's symptoms included changes in personality, severe headaches, loss of memory, dizziness, and light and sound sensitivity. Her inability to sleep due to many of these symptoms also led to a diagnosis of narcolepsy.

After years of suffering silently, Tanya finally decided to seek treatment. She participated in occupational therapy, neuromuscular therapy, and Dynavision (multi-tasking

coordination and cognition exercise), and began to see results. Tanya's distress was soon replaced with a sense of hopefulness. "I noticed that I was using words I hadn't remembered using in a long time and remembering things without relying on lists," she says. "I just began feeling more like myself." Of course, there are still challenges. Tanya continues to experience recurring headaches, however, they are much less frequent than they were before treatment. She has continued to engage in an ongoing treatment plan and is seeing more improvement, which is adding to his quality of life. "I encourage anyone recovering from a TBI to never give up," she says. ■





**“ONCE YOU CHOOSE  
HOPE, ANYTHING’S  
POSSIBLE.”**

*Christopher Reeve*

# DID YOU know?

**FOLLOWING A BRAIN INJURY, CLINICIANS MAY USE IMAGING TESTS TO SEE INSIDE THE BRAIN AND LEARN ABOUT THE BRAIN'S ACTIVITY.**

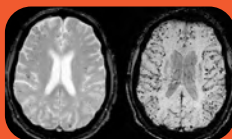
## MRI

MRI scans produce detailed images of the brain using radio waves and a strong magnetic field. There are several MRI techniques:



### DTI

Diffusion tensor imaging (DTI) is an MRI technique which measures the rate of water diffusion between cells.



### SWI

Susceptibility weighted imaging (SWI) is an MRI technique which detects small amounts of blood products or calcium.



### fMRI

Functional magnetic resonance imaging (fMRI) is an MRI technique that detects changes in blood flow.



### CAT/CT

CAT or CT scans produce 3-D images of the brain that will show any abnormalities.



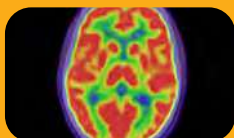
### CTA

CTA scans show blood vessels in the brain and can detect blockages or abnormalities.



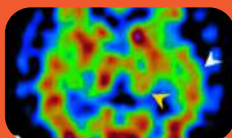
### X-RAY

X-ray imaging shows skull fractures or other broken bones.



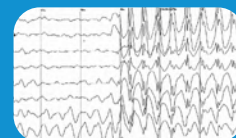
### PET

PET scans use radioactive substances to measure changes in the metabolic processes of the brain.



### SPECT

SPECT scans use gamma rays to create 3D pictures of the brain.



### EEG

EEG scans measure electrical activity in the brain and can show any seizure activity.



---

“ALL THESE PEOPLE AND THEIR JOINED EFFORT MADE ME WORK TWICE AS HARD SO THEIR HARD WORK WOULDN'T BE WASTED.”

---

# ELAINA

## FINDING THE COURAGE TO GET BACK BEHIND THE WHEEL

During the summer of 2020, on a drive to a friend's home, Elaina's life changed forever. Her intention was to drive to the beach and enjoy a relaxing day with friends. Unfortunately, Elaina collided with another vehicle on the expressway and was seriously injured in the crash.

“All I remember was waking up in the car and everything was in a very slow motion, in absolute quiet,” says Elaina. “I had no sense of smell or touch, just nothingness. Then the adrenaline kicked in and I had to drag myself out of the car because I could smell smoke, still not knowing what had happened and where I was. The only thing I knew was that I did not want to burn.”

She was taken to the hospital. “I remember being scared and I was in so much pain and dazed from the shock of it all. There were lots of doctors, nurses, beeping noises, tubes, many questions thrown all in my direction, thousands of voices that didn't make sense,” she says.

Elaina had suffered multiple injuries including a traumatic brain injury. She spent months in the hospital.

“It was a hard two months. All my dignity was gone. I became totally dependent on everyone around me. I had to learn to trust strangers very quickly. Their judgements, statements and advice — it wasn't always easy,” she says. “But, on the other hand, I also had an amazing support from the wonderful therapy team, who helped with my rehab. The clinical nurse specialist, who was the right hand of my surgeon, always put a smile on my face. There was also the porter and the kitchen and cleaning staff who all had an enormous enthusiasm for life. Meeting other patients and hearing their stories also helped and made me appreciate how lucky I was and that it could be worse, which became my daily mantra. All these people and their joined effort made me work twice as hard so their hard work wouldn't be wasted.” Elaina is finally back on her feet and finding the courage to get back behind the wheel. 🚗



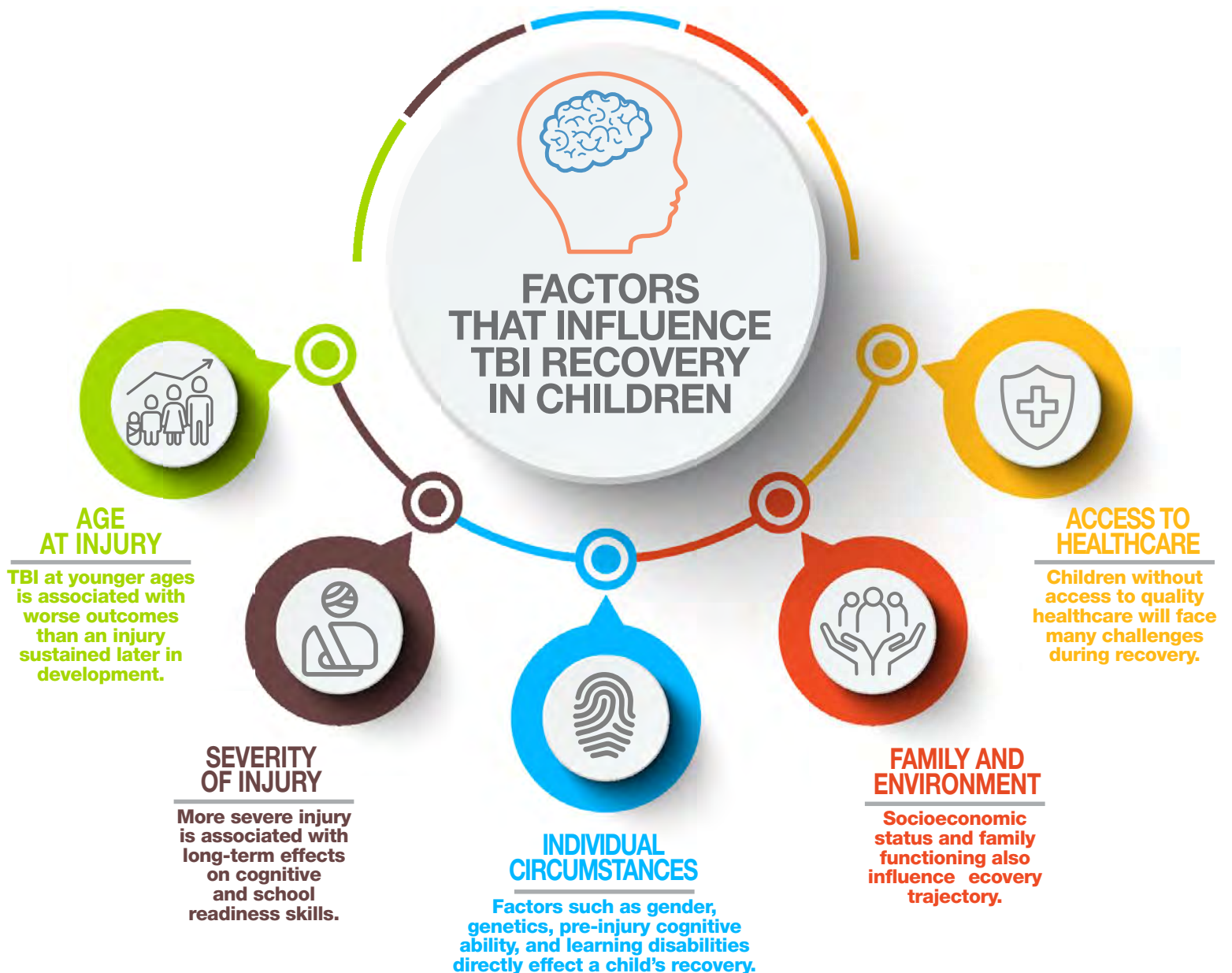




**“IT’S NEVER TOO  
LATE TO BE WHAT  
YOU MIGHT’VE BEEN.”**

*George Eliot.*

# DID YOU know?





# Pain Management

Beverly Hills | Newport Beach | Inland Empire

by Life Back Medical

## Are you in pain? Ask yourself:

1 Do you have sharp and sudden pain from an accident or illness?

2 Have you had pain that lasts for 6 months or even more?

3 Do you have pain that mysteriously goes away, only to come back again?

✓ If you answer "YES" to any of these questions, we can help. Text us: (951) 547-2056



Some of the most common conditions we diagnose and treat are those that cause back, neck, knee, and shoulder pain.



AFFILIATED WITH:

Imperial College  
London



CALL



TEXT

**(951) 547-2056**

1902 FULLERTON AVE. CORONA, CA.

LifeBackMedical.com | info@LifeBackMedical.com | We have satellite offices in Beverly Hills and Newport Beach

# H D

## DILANCHIAN CHIROPRACTIC



### GLENDALE

409 S. Central Ave., Glendale, CA 91204

Surrounding Cities: Burbank, Eagle Rock, Highland Park, Pasadena, La Crescenta, Echo Park

### VAN NUYS

14521 Gilmore St., Van Nuys, CA 91411

Surrounding Cities: Sherman Oaks, N. Hollywood, Panorama City, Pacoima, Reseda

### EAST L.A.

5301 E. Whittier Blvd. Atrium Suite, Los Angeles, CA 90022

Surrounding Cities: Montebello, Commerce, Boyle Heights, Huntington Park

### SANTA ANA

3620 S. Bristol St. Suite 203, Santa Ana, CA 92704

Surrounding Cities: Tustin, Orange, Irvine, Garden Grove, Newport Beach

### KOREATOWN / MID-WILSHIRE

2970 W. Olympic Blvd. Suite 201, Los Angeles, CA 90006

Surrounding Cities: Downtown L.A., Hollywood, L.A./USC, Miracle Mile

 drdilanchian

 mel.mahmoudi



TO SCHEDULE A NEW PATIENT: TEXT: 818.369.9219 CALL: 818.247.1331 EMAIL: INFO@DRDILANCHIAN.COM

GET *diagnosed* | GET *treated* | GET YOUR *life* BACK



GET THE  
**SUPPORT**  
YOU NEED.

[www.biacal.org](http://www.biacal.org) 1-833-Mend-TBI

 BRAIN INJURY  
ASSOCIATION  
OF CALIFORNIA





# A Multidisciplinary Approach To Pain Management



Alireza Bozorgi, MD

MISurgical featuring Orange County Orthopedic & Pain Center proudly introduces Alireza Bozorgi, MD Neurologist & Interventional Pain Management specialist. Dr. Bozorgi utilizes his years of experience to offer patients a multidisciplinary approach to pain management, combining interventional pain procedures in collaboration with other healthcare providers.

DR. BOZORGI SPECIALIZES IN:

- TBI / Traumatic Brain Injuries
- Neuro Psych
- CRPS
- Post Traumatic Stress Disorder treated with injections
- Post Traumatic Headaches
- Epidural Steroid Injections
- Facet Blocks
- Radiofrequency Ablations
- Kyphoplasty
- MILD Procedures
- PRP & Stem Cell Injections



**MISSION VIEJO OFFICE**  
26921 Crown Valley Parkway  
#201-A  
Mission Viejo, CA 92691  
Phone: (949) 289-9996  
Fax: (949) 600-6365

**IRVINE OFFICE**  
18102 Sky Park Circle,  
Unit D  
Irvine, CA 92614  
Phone: (949) 289-9996  
Fax: (949) 333-2225



ORANGE COUNTY  
ORTHOPEDIC & PAIN CENTER




[www. orangecountyorthopediccenter.com](http://www.orangecountyorthopediccenter.com)



# ALL IN ONE MEDICAL AND LIEN PROVIDERS

MedExams On Lien will provide the right doctors for you. Get a consultation and start your medical treatment today. Receive the highest quality treatments and services for free and get the medical care you deserve.

- Contact patients to schedule 24-48 hrs.
- Status 24/7.
- Fund liens within 72 hrs.

-  Hospitals (4)
-  Surgery Centers (8)
-  Physicians/Specialists (90+)

**MedExams**  
— ON LIEN —

[www.MedExamsOnLien.Com](http://www.MedExamsOnLien.Com)

Phone:  
**714-421-4973**

Google phone:  
**949-441-1099**

Email : [Info@MedExamsOnLien.Com](mailto:Info@MedExamsOnLien.Com)  
Instagram: [@MedExamsOnLien](https://www.instagram.com/MedExamsOnLien)



# The future of pain medicine is here

Concussions and TBI can be a devastating and disabling life-long struggle for the victims of a head and neck trauma. Diagnosis and management of post-concussive headaches and TBI needs the next level of expertise.

At Beverly Hills Migraine & Pain Management Institute, your client will be cared for by Dr. Benjamin Taimoorazy, the only pain management anesthesiologist in the state of California that is triple board certified and sub-specialized in the field of headache medicine by the United Council for Neurologic Subspecialties. Dr. Taimoorazy has been involved as an expert witness and has extensive experience in the management and treatment of victims of concussion and TBI.



**BEVERLY HILLS  
MIGRAINE & PAIN  
MANAGEMENT INSTITUTE**



To get the highest level of care for your clients and for more information please contact us at

**Website**

[www.bhmigraineandpain.com](http://www.bhmigraineandpain.com)

**Phone**

424-302-0289

**Email**

[bhmigraineandpain@gmail.com](mailto:bhmigraineandpain@gmail.com)

# ADVERTISE

**DEADLINE, AUGUST 1, 2023**



**THE NATION'S  
AUTHORITY  
ON TRAUMATIC  
BRAIN INJURY**



Contact Kawni Gilroy  
[kawni@tbimedlegal.org](mailto:kawni@tbimedlegal.org)  
310-947-1214



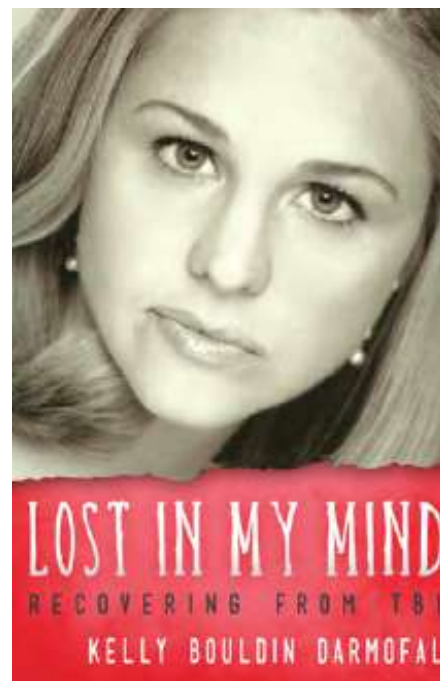
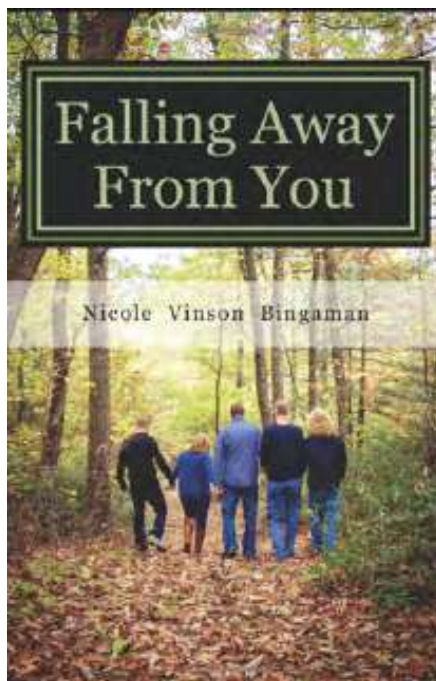
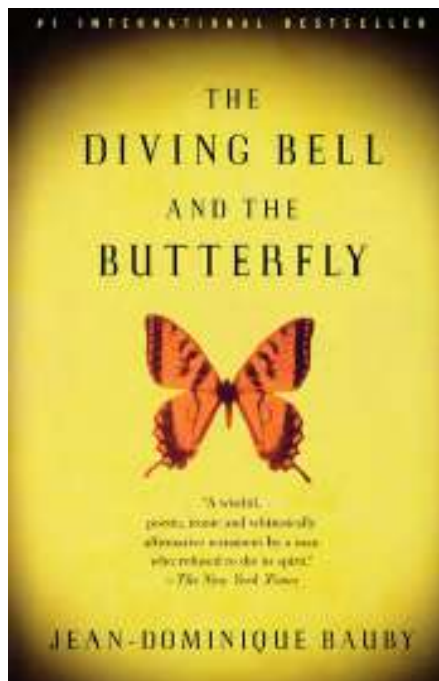
Contact Teri Ballard  
[teri@tbimedlegal.org](mailto:teri@tbimedlegal.org)  
310-408-8685

T

reading room

MUST READS FOR TRAUMATIC BRAIN INJURY SURVIVORS AND THEIR FAMILIES.





## The Diving Bell and the Butterfly: A Memoir of Life in Death

*Jean-Baptiste Bauby*

In 1995, Jean-Dominique Bauby was the editor-in-chief of French Elle, the father of two young children, a 44-year-old man known and loved for his wit, his style, and his impassioned approach to life. By the end of the year he was also the victim of a rare kind of stroke to the brainstem. After 20 days in a coma, Bauby awoke into a body which had all but stopped working: only his left eye functioned, allowing him to see and, by blinking it, to make clear that his mind was unimpaired. Almost miraculously, he was soon able to express himself in the richest detail: dictating a word at a time, blinking to select each letter as the alphabet was recited to him slowly, over and over again. In the same way, he was able eventually to compose this extraordinary book.

## Falling Away From You: One Family's Journey Through Traumatic Brain Injury

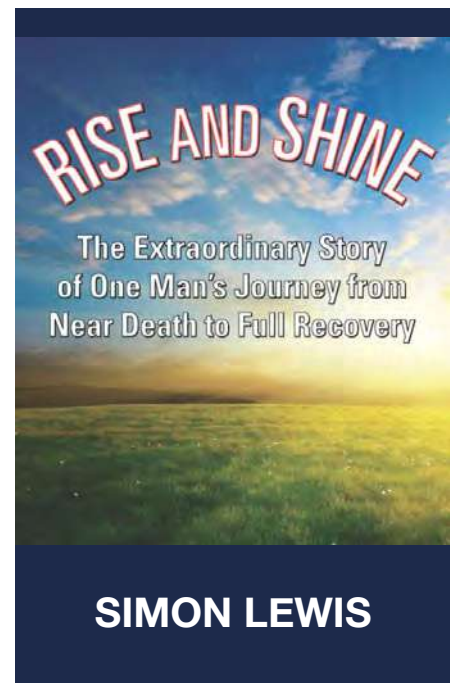
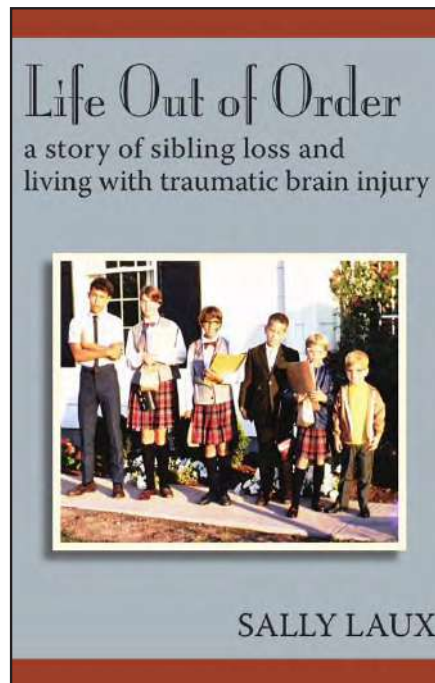
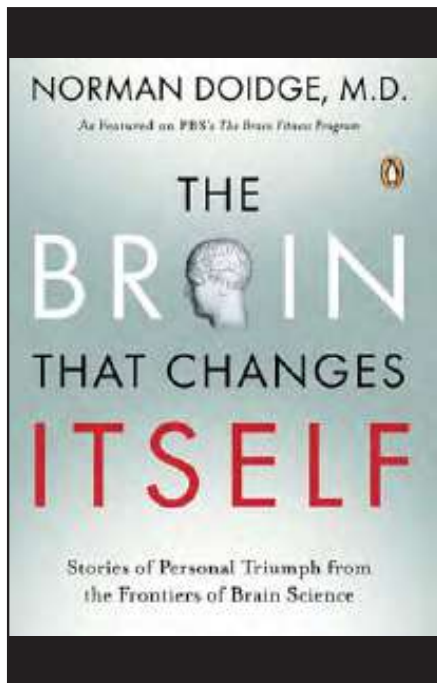
*Nicole Vinson Bingaman*

On Thanksgiving Eve 2012, the course of one young man's life would be forever changed. *Falling Away from You* tells the story of Taylor Bingaman and his journey through the world of Traumatic Brain Injury through the eyes of his mother Nicole. Nicole expresses the idea that it takes a village to have a successful recovery and it merely begins in the operating room. This book will remind you that each day is a precious and irreplaceable gift. It will show you that love and time do play a part in healing. *Falling Away from You* is a perspective of hope in the midst of tragedy, triumph in the face of what seemed like unbeatable odds, and how one family came together to help bring back the son and brother they loved so much. It is a realistic perspective on courage and determination.

## Lost in My Mind: Recovering From Traumatic Brain Injury

*Kelly Bouldin Darmofal*

*Lost in My Mind* is a stunning memoir describing Kelly Bouldin Darmofal's journey from adolescent girl to special education teacher, wife and mother -- despite severe Traumatic Brain Injury (TBI). Spanning three decades, Kelly's journey is unique in its focus on TBI education in America (or lack thereof). Kelly also abridges her mother's journals to describe forgotten experiences. She continues the narrative in her own humorous, poetic voice, describing a victim's relentless search for success, love, and acceptance -- while combating bureaucratic red tape, aphasia, bilateral hand impairment, and loss of memory.



## The Brain That Changes Itself: Stories of Personal Triumph from the Frontiers of Brain Science

*Norman Doidge, M.D.*

An astonishing new science called “neuroplasticity” is overthrowing the centuries-old notion that the human brain is immutable. In this revolutionary look at the brain, psychiatrist and psychoanalyst Norman Doidge, M.D., provides an introduction to both the brilliant scientists championing neuroplasticity and the people whose lives they’ve transformed. From stroke patients learning to speak again to the remarkable case of a woman born with half a brain that rewired itself to work as a whole, *The Brain That Changes Itself* will permanently alter the way we look at our brains, human nature, and human potential.

## Life Out of Order: A Story of Sibling Loss and Living with Traumatic Brain Injury

*Sally Laux*

This is the author’s life as it relates to her three brothers. It is the story of what happened to them. It is a story of holding on to oneself in the midst of six sibling and rediscovering oneself while losing them, one after another. It is a very personal, inspiring story of sibling life and sibling loss. Sally’s life is an extraordinary story of losing 2 brothers to death and 1, in large measure, to a traumatic brain injury. Her book will have special resonance for folks who have lost siblings, who are caretakers for disabled siblings, or who are in recovery, but you don’t need those exact experiences to identify with Sally’s powerful words.

## Rise and Shine

*Simon Lewis*










An impassioned tale of survival and recovery, this inspirational story recounts the author’s horrific car accident, his subsequent coma, and the more than 15 years of cutting-edge treatments and therapies endured during convalescence. With specific details of the rigorous rehabilitation process that ensued, including numerous breakthrough and experimental surgeries, the book also provides practical insight into navigating the treacherous world of insurance and how to differentiate between the often conflicting medical opinions offered. In addition to describing the numerous procedures undergone, the author tells not only of his pain, frustration, and despair, but also of his childlike wonder at the beauty and miracle of creation. A first-person account of sudden, unexpected tragedy and life-affirming courage, this remarkable tale of regeneration imparts lessons both medical and spiritual.



# INTERESTED IN GROWING YOUR FIRM'S MASS TORT CAPABILITIES?

Earn up to **60%** or MORE of the net legal fee by Co-Counseling with The Lake Law Firm

*WE TAKE CARE OF EVERYTHING INCLUDING:*

-  **MARKETING**
-  **WORKUP**
-  **PREPARATION OF COMPLAINT**
-  **INTAKE**
-  **SETTLEMENT**
-  **DISCOVERY**
-  **SIGN UP**
-  **MEDICAL RECORD RETRIEVAL**
-  **BELLWETHER TRIALS**

*Contact us to get started today:*

[info@thelakelawfirm.com](mailto:info@thelakelawfirm.com)

888-LAKELAW

@THELAKELAWFIRM



DEADLINE, AUGUST 1, 2023

# ADVERTISE

THE NATION'S LEADING TRAUMATIC BRAIN INJURY MAGAZINE



Contact Kawni Gilroy  
kawni@tbimedlegal.org  
310-947-1214



Contact Teri Ballard  
teri@tbimedlegal.org  
310-408-8685

LEGAL  SOFT

HIRE A PERSONAL INJURY

TRAINED & DEDICATED

VIRTUAL STAFF



★★★★★  
Jessie L.  
Case Manager  
3 Years Exp. | 450 Placed



★★★★★  
Matthew B.  
Intake Specialist  
5 Years Exp. | 620 Placed

GET STARTED  
FOR JUST **\$12/HR**



# Banking Solutions for Contingency Fee Law Firms



Learn more about the advantages of working with a bank which understands law firms. Please call us at **844-ESQ-BANK**.



**BOOK A MEETING**

Scan the QR code to schedule a no-obligation consultation to learn about our tailored banking solutions for law firms. Or visit [EsquireBank.com](http://EsquireBank.com).



## KNOW YOUR LIMITS?

- 3-Step Independent verification
- 24-48 Hour Average Turn Time
- Auto Liability Limits
- Homeowner's Liability Limits
- Commercial Auto Limits
- Commercial General Limits
- Motorcycle/Boat/RV Limits
- Policy Existence Searches
- Umbrella Limits

**Red Folder**  
RESEARCH

[www.RedFolderResearch.com](http://www.RedFolderResearch.com)

# Forensic Economic Services



Economic Analysis  
Litigation Support  
Expert Testimony

**Rule703.com**



# YOUR PAIN **STOPS** HERE.



Sandra Thompson, MD, MBA believes that life is to be enjoyed and that every effort should be made to minimize or eliminate pain. She offers a wide range of pain management alternatives.

**THE PAIN  
CENTER  
SAN DIEGO**

**SANDRA THOMPSON, MD, MBA  
PAIN MANAGEMENT SPECIALIST**

**Board Certified Anesthesiologist**

**28+ Years of Experience in  
Pain Management**

**2011 Patient Choice  
Award Recipient.**

**(619) 578-3740  
thepaincentersandiego.com**

## DOCTORS ACCEPTING LIENS THROUGHOUT CALIFORNIA & NEVADA

ORTHOPEDICS, NEUROLOGY, PAIN MANAGEMENT, NEURO SURGEONS,  
PLASTIC SURGEONS, DENTISTS, PHYSICAL THERAPISTS,  
CHIROPRACTORS, IMAGING CENTERS, AND MUCH MORE.

- ✓ *Offering the highest-ranking medical specialists working on a lien basis.*
- ✓ *Concierge Scheduling Services*
- ✓ *Personalized Marketing Services for Members*



**Maria Degarcia**  
CEO of Injury Institute



GET YOUR "ONE OF A KIND"  
COMPLIMENTARY TRAFFIC  
BOARD TODAY!



SCAN TO VIEW OUR  
WEBSITE



SCAN TO VIEW OUR  
DIGITAL BROCHURE

**CONTACT US FOR PRIORITY  
APPOINTMENTS**

**866-544-6587  
SCHEDULING@INJURYINSTITUTE.COM**

# WORK SMARTER, NOT HARDER.

In most cases, a Traumatic Brain Injury means learning a new way of life for your clients. While they are working hard at rehabilitation, we help attorneys work smart - navigating the maze of retrieving medical records, accident reports, insurance forms, and documents related to your client's TBI that you will need for litigation.

Global Litigation Consultants provides the heavy lifting and administrative support so you can focus on what is most important – you, your case and your business. We will gather, summarize, and analyze the information you and your legal team need to prepare a pre-suit demand or initiate a lawsuit.

With decades of experience in offering alternative legal services, Global Litigation Consultants provides integrated services throughout the lifespan of your case (pre-litigation, trial preparation, trial resolution) that rival the administrative support of large firms without the large price tag.

- Medical Record Retrieval
- Case Merit Evaluation
- Case Analysis
- Medical Record Organization
- Public Benefit Compliance
- Medical Billing Summary
- Medical Expert Selection
- Settlement Demand Preparation
- Certifying Expert Affidavits
- Fiduciary Management

Put our litigation support consultants to work for you. Call to start your case 855-788-2665.



GLOBAL  
LITIGATION  
CONSULTANTS

Helping you work smarter, not harder.



## No Traumatic Brain Injury is ever straightforward; Public Benefits Compliance can feel the same way.

The Directed Benefits Foundation is a 501(c)(3) non-profit corporation that advises and administers disability trusts including, Qualified Income Trusts, Special Needs Trusts and Pooled Special Needs Trusts. Our professionals provide support to individuals who face adversity and financial challenges in all 50 States. We are fully equipped to tend to your trust-related needs, ranging from simple to highly complex cases. With the help of our experts, creating and administering your trust can be a straightforward process.

*Whether you are an individual, a family, an attorney, or advisor, Directed Benefits Foundation is ready to alleviate the complexities of setting up and administering your trust. We can assist in determining which trust best suits your needs and offer personalized support to help meet your planning objects for the present and into the future.*

**[www.directedbenefits.org](http://www.directedbenefits.org) | 727-497-1811**

DIRECTED  
BENEFITS  
Foundation



**ANDREW FOX, MD**  
NEUROSURGEON

**ALEXANDER GHASEM, MD**  
ORTHO SPINE

**RYAN MATTIE, MD**  
INTERVENTIONAL PAIN  
MANAGEMENT

**LOCATIONS**

4849 Van Nuys, Ste 203  
Sherman Oaks, CA 91403

23632 Calabasas Rd, Ste 100  
Calabasas, CA 91302

530 Plaza Dr., Ste 110  
Folsom, CA 95630

100 N. Wiget Lane. Ste 200  
Walnut Creek CA 94598



**SPECIALIZING IN**

- Complete Neuro and Ortho Spine Surgery
- Interventional Pain Management & Sports Medicine
- Regenerative Medicine Therapies

**VISITS SCHEDULED WITHIN  
24-48 HOURS**

**MOST INSURANCES ACCEPTED**



**Total Spine**  
INSTITUTE

**818-616-4429**

**[www.totalspineinstitute.org](http://www.totalspineinstitute.org)**



**ABOUT US**

Samimi Orthopedic Group has three Los Angeles area offices in Brentwood, West Covina, and Sherman Oaks, where patients can benefit from exceptional treatment for a range of musculoskeletal conditions.

Experienced orthopedic surgeons Babak Samimi, MD, David Eldringhoff, MD, and Berkay Unal, MD, along with their orthopedic PAs are passionate and caring experts in their field.

They have extensive experience dealing with complex orthopedic injuries and have developed and utilize the latest and most advanced techniques and technologies, including minimally invasive surgery, to optimize results for patients and speed their recovery.

Our providers are specially trained to treat Personal Injury and Workers Comp injuries and provide Med Legal opinions.

Dr. Babak Samimi is a highly respected and experienced Med Legal Expert in the field of Orthopedic Surgery. He has testified as an Expert Witness in more than 40 trials and hundreds of depositions.

**ORTHOPEDIC SERVICES**

- Arthroscopic Surgery
- Sports Medicine
- Total Joint Replacements
- PRP Injections
- Personal Injury
- Workers Comp
- Physical Therapy
- Med-Legal Services
- Expert Witness/IME

**LOCATIONS**

LOS ANGELES

11710 WILSHIRE BLVD,  
LOS ANGELES, CA 90025  
310-606-2156

WEST COVINA

741 S. ORANGE AVE  
SUITE 200  
WEST COVINA, CA 91790  
626-338-7391

SHERMAN OAKS

5170 SEPULVEDA BLVD  
SUITE 210  
SHERMAN OAKS, CA 91403  
626-653-5585

CALL OR SCHEDULE APPOINTMENTS  
ONLINE TODAY

**[WWW.SAMIMIMD.COM](http://WWW.SAMIMIMD.COM)**



# YOUR PAIN **STOPS** HERE.



Sandra Thompson, MD, MBA believes that life is to be enjoyed and that every effort should be made to minimize or eliminate pain. She offers a wide range of pain management alternatives.

**THE PAIN  
CENTER  
SAN DIEGO**

**SANDRA THOMPSON, MD, MBA  
PAIN MANAGEMENT SPECIALIST**

**Board Certified Anesthesiologist**

**28+ Years of Experience in  
Pain Management**

**2011 Patient Choice  
Award Recipient.**

**(619) 578-3740  
thepaincentersandiego.com**

## DOCTORS ACCEPTING LIENS THROUGHOUT CALIFORNIA & NEVADA

ORTHOPEDICS, NEUROLOGY, PAIN MANAGEMENT, NEURO SURGEONS,  
PLASTIC SURGEONS, DENTISTS, PHYSICAL THERAPISTS,  
CHIROPRACTORS, IMAGING CENTERS, AND MUCH MORE.

- ✓ *Offering the highest-ranking medical specialists working on a lien basis.*
- ✓ *Concierge Scheduling Services*
- ✓ *Personalized Marketing Services for Members*



**Maria Degarcia**  
CEO of Injury Institute



GET YOUR "ONE OF A KIND"  
COMPLIMENTARY TRAFFIC  
BOARD TODAY!



SCAN TO VIEW OUR  
WEBSITE



SCAN TO VIEW OUR  
DIGITAL BROCHURE

**CONTACT US FOR PRIORITY  
APPOINTMENTS**

**866-544-6587  
SCHEDULING@INJURYINSTITUTE.COM**





# TBI IN TIMES OF WAR

*With Russia's invasion of Ukraine, war has been at the forefront of our consciousness. As the soldiers in this conflict as well as others across the world risk their lives for their countries and causes, many will undoubtedly suffer a traumatic brain injury.*

WITH MORE THAN 350,000 BRAIN INJURIES BEING reported in the military since 2001, military leaders have long acknowledged that traumatic brain injury (TBI) is one of the signature, and silent wounds of war. Though blunt trauma injury has decreased due to advances in armor in recent years, TBI caused by blast injury is as common as it was decades ago and even more pronounced due to the amplified shock waves produced by modern bombs. According to the National Library of Medicine, 33% of service members with a TBI sustained it from blast injury.

One could say the risk of brain injury in the deployed military is inevitable given their extended exposure to missile strikes. And to intensify this risk, when troops are hunkered down in small bunkers during strikes, the potential for blast injury is high because shock waves are amplified in small spaces.

Even with hundreds of thousands of acknowledged brain injuries in the military, diagnosis is a puzzle, and despite ongoing research, it is still rudimentary. "We still haven't found the magic biomarker," said Dr. Gerald Grant, a professor of neurosurgery at Stanford University and a former Air Force lieutenant colonel who frequently treated head injuries while deployed to Iraq in 2005. "You'd see soldiers coming in with blast injuries and they clearly had symptoms, but the CT scans would be negative." The go-to method for the diagnosis of TBI has remained unchanged for decades and involves asking patients a series of questions — Did they blackout? Do they have memory problems or dizziness? Are they experiencing irritability or difficulty concentrating? — to determine if they have TBI and what the severity of it is.

"You would never diagnose a heart attack or even a broken bone that way," said Dr. Jeff Bazarian a professor of emergency medicine at the University of Rochester Medical Center. "And yet we are doing it for an injury to the most complex organ in the body. Here's how crazy it gets: You are relying on people to report what happened. But the part of the brain most often affected by a traumatic brain injury is memory. We get a lot of false positives and false negatives."

Another aspect that complicates the diagnosis and treatment of TBI in the military population could be called the 'pride factor'. Many service members have difficulty being perceived as weak and admitting vulnerability due to their hardcore training. For this reason, experts say that some troops may hide symptoms to stay on duty. On the flip side, service members who complain of TBI symptoms may not be given the attention they need and instead be forced to return to duty based on their commander's suspicion that they are exaggerating or fabricating symptoms to make them eligible for accolades or benefits.

Even though there are many complexities involved in diagnosing and treating military service members with TBI, both the military and the medical community acknowledge the importance of bringing awareness to troops suffering from it. In addition, many non-profit organizations are stepping up to increase awareness around this important topic. One such organization is the Wounded Warrior Project — a charity and veterans service organization that offers a variety of programs, services, and events for wounded veterans. With these supports and continued TBI research, the future is hopeful for troops affected by this silent wound. 🇺🇸

# Exceptional Images. Extraordinary Patient Care.



- We offer a full range of imaging options including high-field, open and upright MRI, CT, X-Ray and Ultrasound
- Our expert radiologists specialize in injury diagnostics including TBI
- We offer fast scheduling and report turnaround
- We accept all major insurance, Medical and lien-based exams



## Introducing our newest MRI yet, the MAGNETOM Lumina 3T by Siemens!

- Noticeably superior image quality
- Can better identify the totality of your client's injuries
- 70 cm open bore for better comfort, reduced anxiety
- Able to accommodate patients up to 550 pounds



877.MRI8888 | [ExpertMRI.com](http://ExpertMRI.com)  
[Referrals@ExpertMRI.com](mailto:Referrals@ExpertMRI.com)





Schedule A Free  
Consultation:

855 CAR ACCIDENT

[www.delriolawoffice.com](http://www.delriolawoffice.com)



DON'T MISS US AT  
THE TBI MED LEGAL  
CONFERENCE

MILLIONS  
RECOVERED

WE'RE THE FIRM  
PEOPLE TURN TO WHEN  
THEY NEED SOMEONE  
TO GO UP AGAINST  
INSURANCE COMPANIES  
ON THEIR BEHALF.

EXPERIENCED  
BRAIN & CATASTROPHIC INJURY  
TRIAL ATTORNEYS

