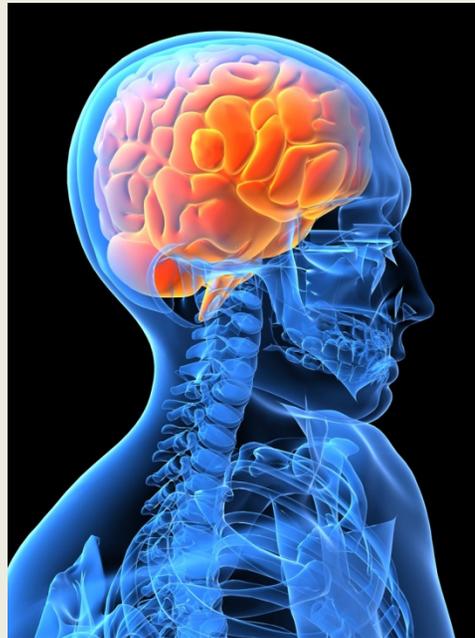


# The Hidden Problem: Brain Injury and Addiction



March 16, 2010

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Brain Injury Association of New York State



- Every 23 seconds a person in the United States sustains a traumatic brain injury (TBI)

# LIFE WITH BRAIN INJURY

- Brain injury is the **silent epidemic**
- **3.2 million** people in the US are living with a long term disability due to brain injury

# Substance Abuse and Brain Injury

- 50% of these people will return to using alcohol and drugs after the injury (Corrigan, 1995).
- 20% of persons with brain injuries who did not use alcohol or drugs prior to the injury, were vulnerable to alcohol and drug use after the injury (Corrigan, 1995).
- 50% of clients enrolled in OASAS Programs were affected by probable TBI (N=647) (Fenske, Gordon, Perez, Hibbard, Brandau, submitted for publication )

# The Signature Wound...The Tip of the Iceberg

- As many as one in five of US combat troops leaving Iraq and Afghanistan are affected by traumatic brain injury.<sup>1</sup>
- “...it is unknown how many soldiers have suffered a TBI during OEF/OIF.” The incidence of moderate to severe TBI’s are well captured, but the “overall incidence of mild TBI or concussion in the military” is unknown.<sup>1</sup>
- The effects of concussion from blast injury are not always immediately apparent.

<sup>1</sup>Army Task Force Report, May 2008

# Understanding the Scope of the Problem

The Walter Reed Army Medical Center reported that nearly 30% of all service personnel with combat-related injuries during 2003 to 2005 sustained a traumatic brain injury.

Blasts or explosions accounted for 78% of TBI's sustained by these individuals.



# Blasts



- Are the leading cause of TBI for active duty military personnel
- Account for 69% of TBI cases in the current conflicts

The Defense and Veterans Brain Injury Center, [http:// dvbic.org/blastinjury.html](http://dvbic.org/blastinjury.html)

CRS Report for Congress, US Military Casualty Statistics, OIF and OEF, August 17, 2007

# LATEST INFORMATION

- Brigadier General Sutton: 20% of service members who have served in Iraq and Afghanistan have sustained at least a mild concussion
- Represents roughly 16, 633 New York veterans

# THE BRAIN

Controls **everything** we do

...breathing

...walking

...talking

...thinking

...behaving

...feeling



# DEFINITION – ACQUIRED BRAIN INJURY

Injury to the brain which is not hereditary, congenital or degenerative, and may include brain damage resulting from events such as stroke, aneurysms, anoxia from near drowning, toxic substances or traumatic brain injury (TBI)

# ACQUIRED BRAIN INJURY INCLUDES:

Aneurysm

Stroke

Encephalitis

Anoxia

Traumatic brain injury

- Gunshot wound
- Concussion blast injuries
- Head hitting windshield
- Severe whiplash
- Shaken Baby Syndrome

Toxic exposure (CO, lead paint, neurotoxins, inhaled vapors)



# ACQUIRED BRAIN INJURY EXCLUDES:

- Congenital Disorders
  - Intellectual Disabilities
  - Cerebral Palsy
  - Birth Injuries
- Progressive Disorders
  - Alzheimer's Disease
- Psychiatric Disorders
  - In which there is no known or obvious central nervous system damage

# DEFINITION – TRAUMATIC BRAIN INJURY

- Traumatic brain injury is a specific type of damage to the brain that results when the head:
  - hits a stationary object (e.g., windshield in a car crash)
  - is hit (e.g., mugging)
  - is penetrated (e.g., gunshot wound)
  - is violently shaken by external force (e.g., Shaken Baby Syndrome, severe whiplash)
  - Concussion blast injury
- Often included, especially in terms of service provision groups, are individuals with other types of post-natal acquired injuries, such as strokes or aneurysms.

# HOW BRAIN DAMAGE OCCURS

The brain is a complicated organ, with millions of cells and connections.



While specific areas of the brain may be related to specific functions, in reality each function (walking, lifting an arm, speaking, etc.) involves many areas of the brain communicating and interacting with each other.

# HOW BRAIN DAMAGE OCCURS

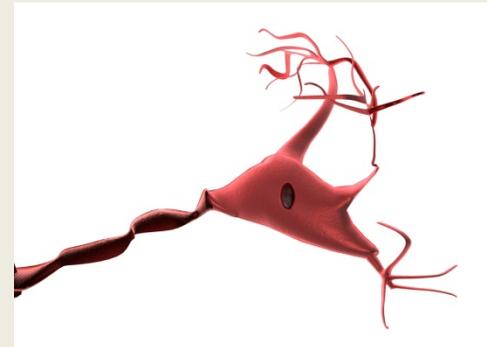
Damage to the brain may vary in extent, area and type of damage depending upon:

- nature of the injury (focal or diffuse)

- severity of the injury (level of coma)

- how the injury occurred

- quickness of medical response

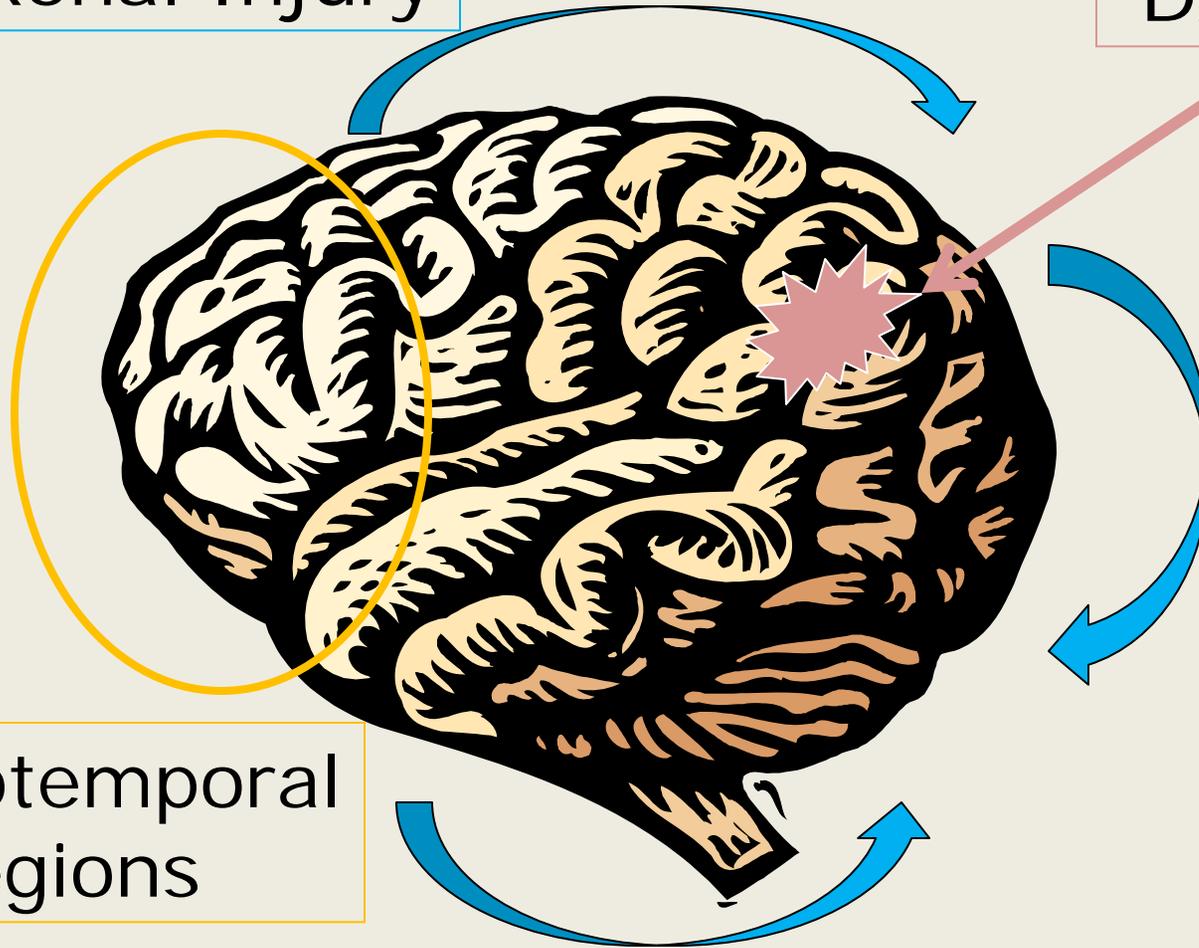


# HOW BRAIN DAMAGE OCCURS IN A TBI

- Focal Damage
  - Skull Fracture
  - Contusion or bruises under the location of a particular area of impact
- Fronto-Temporal Contusions/Lacerations
  - Bruising of brain or tearing of blood vessels in the frontal and temporal lobes of the brain caused by brain hitting or rotating across ridges inside skull
- Diffuse Axonal Injury
  - Shifting and rotation of brain inside skull will result in tearing and shearing injuries to the brain's long connecting nerve fibers or axons

Diffuse  
Axonal Injury

FOCAL  
DAMAGE



Frontotemporal  
Regions

# HOW BRAIN DAMAGE OCCURS

- If the brain damage is from a medical incident that results in an infection, swelling of the brain or anoxia, the damage tends to be more **diffuse**
- If the brain damage is related to a medical incident like a stroke or aneurysm, the damage tends to be more **focal**

# HOW BRAIN DAMAGE OCCURS IN A TBI

Some time after the injury the following may affect the brain:

- Hematoma (Blood Vessel Damage)
- Brain Swelling
- Increased Intracranial Pressure
- Intracranial Infection
- Seizures

# CUMULATIVE EFFECTS OF REPEATED CONCUSSIONS

- History of 3 previous concussions increases risk of repeated concussions 3-fold.
- Athletes with history of 3+ concussions report significantly more symptoms and have lower memory scores at baseline
- Symptoms following repeat concussions may be more serious and resolve at a slower rate
- Worse case = “second-impact syndrome”

*Assess for prior exposure, follow more closely and expect more symptoms and slower recovery*

# EVERY PERSON WITH BRAIN INJURY IS DIFFERENT

There are vast differences from person to person because:

- Every individual is different prior to an injury
- Every brain injury is different



# COMMON PROBLEMS AFTER BRAIN INJURY

They can be categorized into the following broad functional areas:

- PHYSICAL
- COGNITIVE
- EXECUTIVE FUNCTIONING
- AFFECTIVE/BEHAVIORAL
- PSYCHOSOCIAL

# COMMON PROBLEMS AFTER BRAIN INJURY PHYSICAL

Loss of Smell and Taste

Hearing Loss

Visual Difficulties

Balance Difficulties

Dysarthria

Motor Control and Coordination

Fatigue

Seizures

Decreased Tolerance for Drugs and Alcohol

Headaches

Sleep Disturbances

# COMMON PROBLEMS AFTER BRAIN INJURY COGNITIVE

Short Term/Working Memory

Attention

Concentration

Distractibility

Decreased Verbal Fluency/Comprehension

Information processing

Arousal

Problem Solving

Charged Intellectual Functioning

Abstraction and Conceptualization

Slowed Reaction Time

# COMMON PROBLEMS AFTER BRAIN INJURY EXECUTIVE FUNCTIONING

Goal Setting

Self-Monitoring

Planning

Initiating

Modifying

Bringing to Completion

# COMMON PROBLEMS AFTER BRAIN INJURY AFFECTIVE/BEHAVIORAL

Impulsivity

Emotional Lability

Irritability

Decreased Frustration Tolerance

Impaired Judgment

Tension/Anxiety

Depression

Aggressive Behaviors

Disinhibition

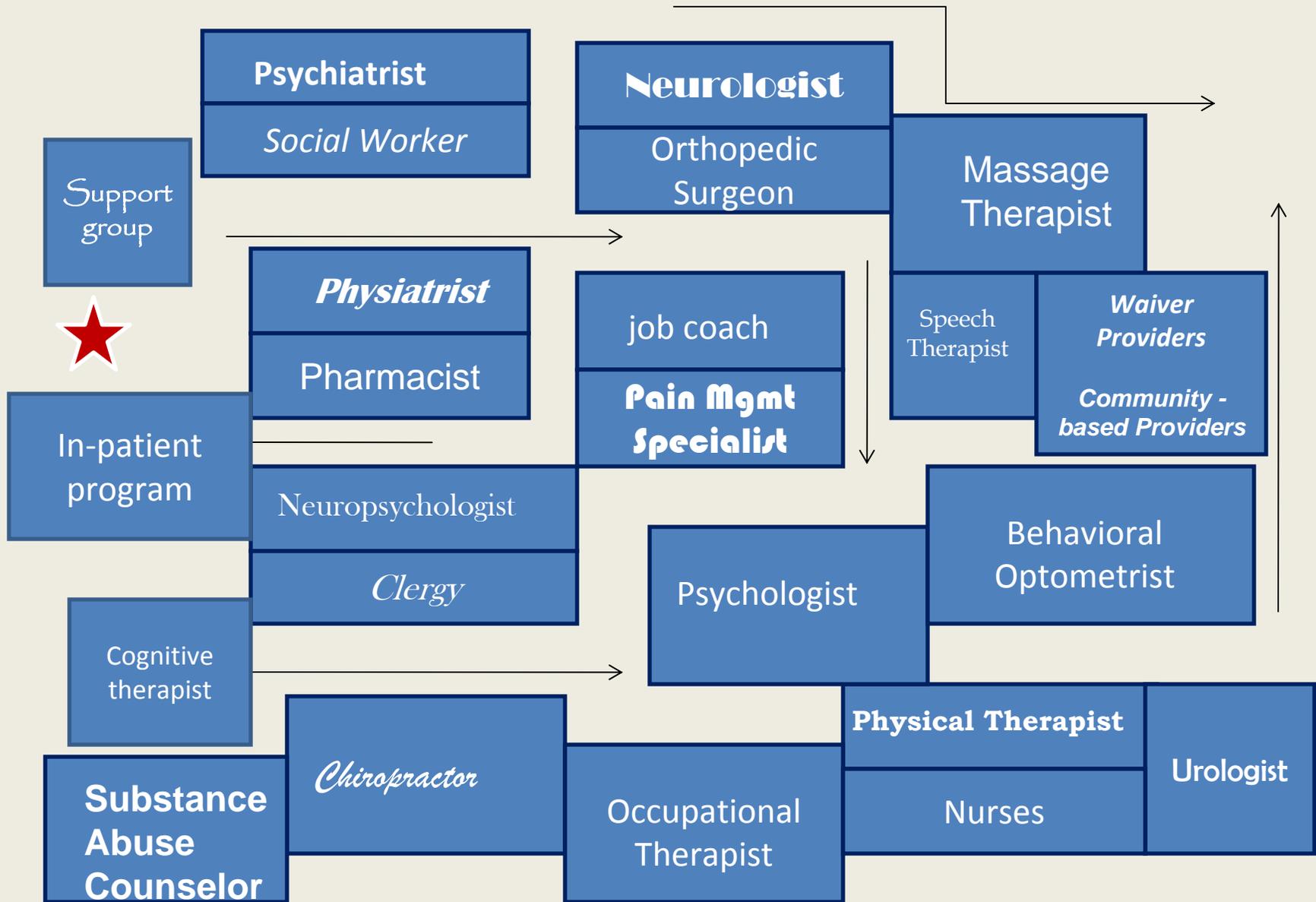
Changed Sexual Drive

Changed Personality

# COMMON PROBLEMS AFTER BRAIN INJURY PSYCHOSOCIAL

- Educational/Vocational Problems
- Interpersonal Difficulties
  - Intimacy/Sexuality
  - Dependency Issues
  - Alcohol/Drugs
- Intra-Personal Difficulties
  - Loss of Self Esteem
  - Depression/Frustration/**PTSD\***
  - Shaken Sense of Self
  - Profound Sense of Loss
- Family Issues

# A SAMPLING OF TREATMENT PROVIDERS



# RESULTS OF BRAIN INJURY

These are just lists of resulting problems that *may* occur. Not all individuals with a brain injury will have all these problems and each person may have a different combination of problems or “deficits”.

# RESULTS OF BRAIN INJURY

Remember, since you are talking about a brain that started out intact and then was damaged, people with brain injury will have many intact abilities.

*This is you or me with some areas of function changed.*

# WORKING WITH PERSONS WITH BRAIN INJURY

It is important to understand the individuals you work with so that you know what they are capable of doing for themselves and what they need help with (e.g., the type and level of support).

Don't be misled by what looks like a personality trait or a willful decision. What you are seeing may be a brain injury related behavior.

# *HELPS* Screening Tool

- **H**: were you HIT in the head?
- **E**: Did you seek EMERGENCY room treatment?
- **L**: Did you LOSE consciousness? (caution: not necessary to lose consciousness to sustain a TBI)
- **P**: Are you having problems with concentration and memory?
- **S**: Did you experience SICKNESS or other physical problems following the injury?

# SOME RESOURCES TO KNOW

## **NYS Waiver Programs**

- Department of Health
- Office of Mental Retardation and Developmental Disabilities (OMRDD)

## **Community Based Rehabilitation Services**

## **Return to Work Vocational Planning**

## **Housing**

## **Transportation**

## **Recreation**

## **Government Benefits**

# THE BRAIN INJURY ASSOCIATION OF NEW YORK STATE

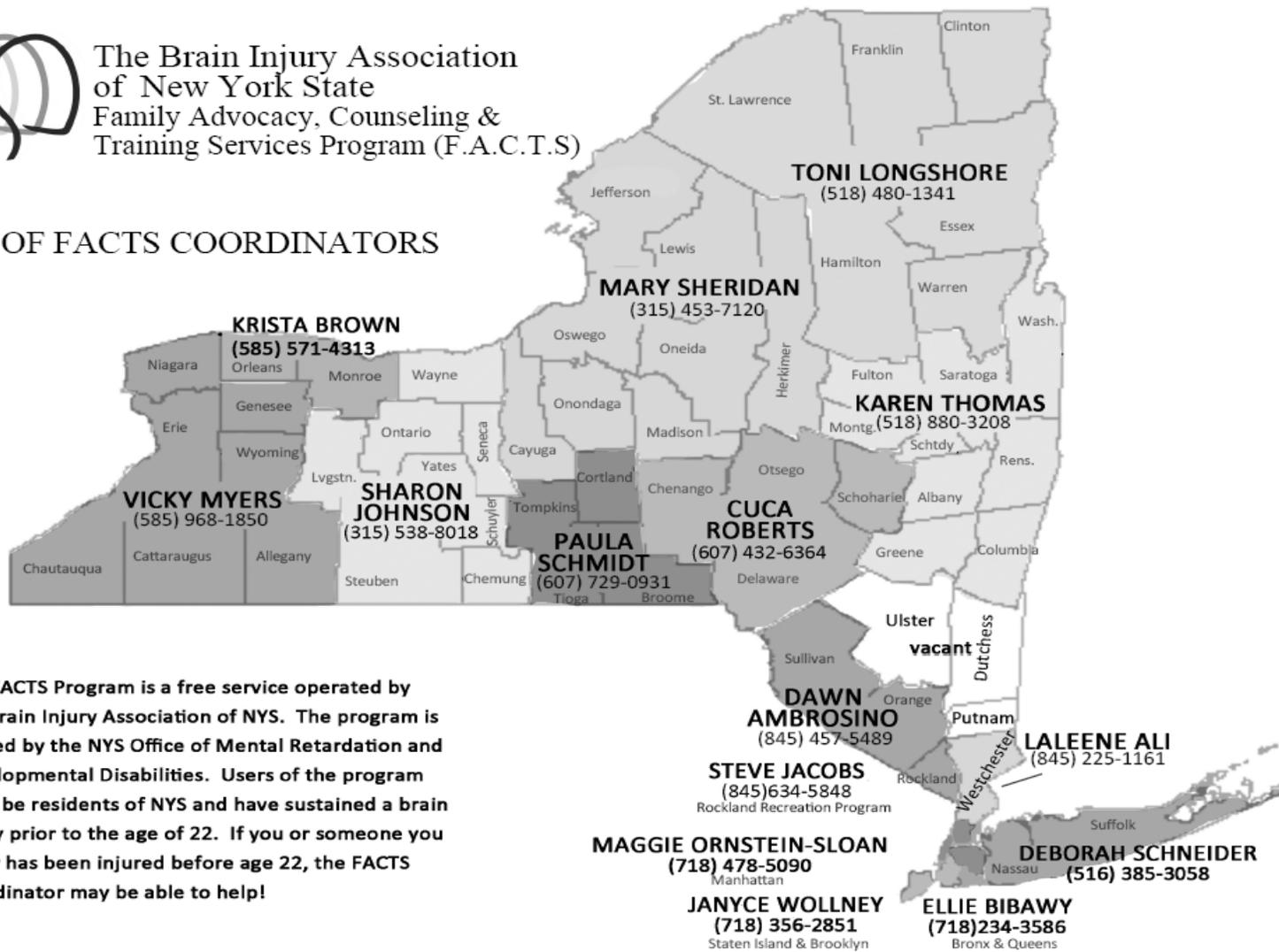
- Traumatic Brain Injury Training and Military Veterans Service Project
- Family Advocacy, Counseling & Training Services Program (FACTS)
- Support groups
- Caregiver Support
- Statewide resources
- Information and training about TBI
- Certified Brain Injury Specialist Training
- Annual conferences and symposia
- Family Help Line (800) 228-8201
- Project LEARN in the classroom (LEARNet)

# Family Advocacy, Counseling and Training Services Program (FACTS)

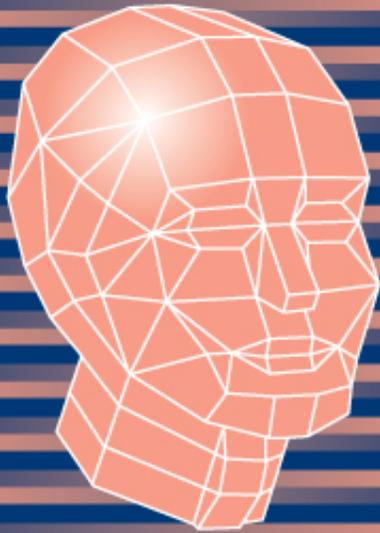


The Brain Injury Association  
of New York State  
Family Advocacy, Counseling &  
Training Services Program (F.A.C.T.S)

## LIST OF FACTS COORDINATORS



The FACTS Program is a free service operated by the Brain Injury Association of NYS. The program is funded by the NYS Office of Mental Retardation and Developmental Disabilities. Users of the program must be residents of NYS and have sustained a brain injury prior to the age of 22. If you or someone you know has been injured before age 22, the FACTS Coordinator may be able to help!



## SAVE THE DATE

The Fourth Annual Conference

### **BRAIN INJURY IN THE COMMUNITY: Facing the Impact of Violence**

**Tuesday, April 20, 2010**

9:00AM–4:00PM OMRDD • 75 Morton Street • New York City

A conference for community providers, professionals,  
and individuals with brain injury and their families.

Sponsored By

ICD–International Center for the Disabled

AHRC-NYC

The Brain Injury Association of New York State

**Details to Follow!**

#### **Learn About**

- The clinical and psychosocial implications of brain injury sustained through violence
- The challenges faced by victims of violence in reclaiming their lives
- Establishing partnerships with programs dealing with suicide prevention, domestic violence, gun violence, bullying and criminal justice

# THINKING ABOUT RETURNING TO WORK?

## **The Brain Injury Association of New York State**

is holding an information and discussion session  
about going back to work after injury.



**DATE: Tuesday February 23, 2010**

**TIME: 7:00pm-8:30pm**

**WHERE: The William K. Sanford Town Library,  
Colonie, NY**

### **TOPICS:**

- Where to begin
- How to know if you're ready to return to work
- Understanding what a potential employer can and cannot ask you during the interview
- Explaining gaps in your employment history
- Resources to help you



If you are interested in attending please RSVP by Monday February 22 to:

**Kristin Weller at (800) 228-8201 or [kweller@bianys.org](mailto:kweller@bianys.org)**

Refreshments will be provided!

# ANNUAL CONFERENCE

Making Peace with Brain Injury:  
Finding the Silver Lining



Brain Injury Association  
of New York State

June 3-4, 2010  
Albany Marriott Hotel, Albany, New York

FEATURING:  
Susan Connors  
President / CEO,  
Brain Injury Association of America



28th Annual Conference  
Registration

# Additional Resources

## BEYOND THE INVISIBLE: LIVING WITH BRAIN INJURY

Narrated by  
**LEE WOODRUFF**

Brain Injury Association of New York State

## TRAUMATIC BRAIN INJURY

### FACTS FOR RETURNING MILITARY PERSONNEL



## RETURNING MILITARY PERSONNEL

- Were you exposed to a blast while deployed?
- Were you in a vehicle crash or injured in some way that jolted your head?
- Did your injury result in any of the following?

- ✓ Seeing "stars," being dazed or confused
- ✓ Not remembering the injury
- ✓ Being "knocked out"
- ✓ Having a headache or dizziness
- ✓ Irritability
- ✓ Decreased concentration or feeling disoriented
- ✓ Ringing in your ears
- ✓ Sensitivity to light and noise
- ✓ Memory problems
- ✓ Feeling like you're losing it



You may have a traumatic brain injury.

**We can help.**

1-800-228-8201

[www.bianys.org](http://www.bianys.org)



**Brain Injury Association  
of New York State**



New York State Commission on  
**Quality of Care and Advocacy**  
for Persons with Disabilities

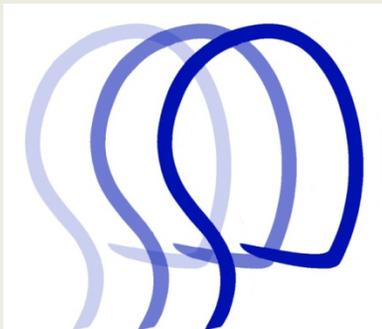
**Because no one should face brain injury alone.**

Support is provided in part by project H25MC00264 from the Maternal and Child Health Bureau (Title V, Social Security Act), Health Resources and Services Administration, Department of Health and Human Services.

# BRAIN INJURY ASSOCIATION OF NEW YORK STATE

10 Colvin Avenue  
Albany, NY 12206  
(518) 459-7911

Family Helpline: 1-800-228-8201



[info@bianys.org](mailto:info@bianys.org)  
[www.bianys.org](http://www.bianys.org)