Disability Awareness Training

Acquired/Traumatic Brain Injury

Virginia Trainer Manual

2018

Acquired/Traumatic Brain Injury Training for Law Enforcement- Virginia

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INSTRUCTOR'S NOTE

This working manual was developed with the intent that an individual experienced in training law enforcement and who have some interest and passion in proper response to individuals with disabilities, can accurately and appropriately present on the topic of disability awareness specific to acquired/traumatic brain Injury. The content in this manual contains essential and necessary information an officer needs to respond to situations and incidents involving individuals with disabilities. This was developed with direct input from several law enforcement entities and professionals as well as a diverse group of individuals representing the various disabilities. Also providing input were service providers, parent groups, disability advocates, and state offices from Virginia, New York and Missouri.

We made every effort to make this as user-friendly as possible. We understand the challenges of presenting this curriculum with the wide array of information vital to each specific disability and what it takes for you to communicate this effectively.

PRINCIPLES

The content of this training is based upon the following fundamental premises:

- Police officers encounter individuals with disabilities at least 50% of the time while on active duty.
- While millions of Americans have a brain injuries and will never have an encounter with law enforcement.The complexity of the disability and its wide array of presenting, may call for Law Enforcment response.
- Challenging behaviors can put Law Enforcement into difficult situations.
- Standard response may need to be altered to address the situation specific to how the disorder presents. Use of force, often times, should not be the first option.
- Untrained officers are at a higher risk for a negative encounter.
- Police officers will, oftentimes, be the first to respond to calls and will be called upon to address the situation while respecting quality and dignity of life.
- Brain injury is an invisible disability that can go undetected by officers. Some individuals are unaware they themselves have a disability.

ABOUT THIS TRAINING

Niagara University has developed this training to provide law enforcement with a complete and comprehensive understanding of how to respond to individuals with ABI/TBI in everyday, on-the-job circumstances. That said, there is an extensive amount of material that can be provided to address all the subject matter. This program is designed for you to provide the training as a whole or in modules.

Niagara University's First Responders Disability Awareness Training (NU FRDAT) office provides information, resources and materials that will assist officers in furthering their education on specific disabilities or topics. Part of this outreach includes the Brain Injury Association of Virginia and other organizations in your area, allowing training directors and academies an opportunity for a connection or training. We encourage first responders to contact us for all their questions and concerns relative to disabilities and how best to respond.

Our website is frdat.niagara.edu or we can be reached at 716-286-7355.

This should be considered preferred ABI/TBI training for any matter relative to response to individuals with mental health disorders in Virginia. The content in this manual is specific to law enforcement and their encounters with acquired and traumatic brain injury. NU FR DAT has developed this in conjunction with the Brain Injury Association of Virginia and the Brain Injury Services Coordination of the Virginia Department for Aging and Rehabilitative Services. Our intent is that your time is used wisely, accurately, and appropriately when learning about this very important, and often misunderstood, topic.

This program is funded by the **Virginia Department of Criminal Justice Services with support from the Virginia Department of Behavioral Health and Developmental Services and the Virginia Board for People with Disabilities.**

OVERALL OBJECTIVES

- Present relevant, important information about Acquired/Traumatic Brain Injury
- Address the challenges officers may face when interacting with individuals with an acquired/traumatic brain Injury.
- Provide ongoing information and resources to law enforcement relative to acquired/traumatic brain Injury.
- Provide an understanding of the laws that address proper response to individuals with acquired/traumatic brain Injury.
- Sensitize and educate officers as to the quality of life issues and overall dignity and respect that can be easily compromised with a lack of proper understanding and response
- Be aware of and utilize the supports that exist for individuals with acquired/traumatic brain Injury.

CO-PRESENTERS

While you are the lead presenter and have been versed in how to deliver this presentation, you may feel more comfortable with individuals who may have the disability, or who are close to it, such as a parent, spouse or service provider professional. They should be considered co- presenters as you will maintain the lead. We encourage individuals that have proven to be accomplished in both disability awareness and mental health. Utilize the community resources identified in the manual to access a qualified co-presenter.

PREPARATION FOR TRAINING

While this manual is designed to guide you through the training program, we understand that there is a lot of new and extensive information that can be overwhelming to both the presenter and the audience. This calls for you to prepare so that the information you provide flows, and our intention is that it is user-friendly. We encourage you to use your creativity when it comes to situations you may have encountered in the line of duty or your peers have communicated to you. Also, it is important to read every handout.

HOW TO USE THIS MANUAL

The coverpage provides you with the introduction to the topic, its objectives, main points, number of pages, videos, handouts, and inserts Also included are the resources that you can provide to interested attendees. These are specific to ABI/ TBI and consist mainly of statewide agencies, providers, and associations. Attendees could find the regional programs, if they exist through the statewide site or contact.

- **Objectives:** this will provide you with the areas that will be covered in this section.

- **Main points:** this gives a brief explanation of the section and what is going to be discussed. You can read this to the audience if you so desire.

- **PowerPoint:** each page of the training is broken down in a note page format.
- It is designed for you to read to the audience or paraphrase. There will be
- some direction on certain pages that may indicate questions to be asked or feedback to be received. The intent is to make it easy for you to explain the page and its topic without having to memorize extended content. Customizing pages is encouraged, especially if you have experiences that can provide specifics on a particular disability.

- **Video**: if a video is in this section it will be indicated here. This program is the disability, give direction on how to respond, and provide candid comments from individuals. There should be **extended discussion** about each video, and you will see that every point is included on the note page.

- **Handouts:** where appropriate, an additional information sheet(s) is included in the section right after the lead page. PLEASE make a few copies prior to the training to have on hand for those who are interested. Whatever is not taken can be available for the next session.

BEYOND THIS TRAINING

Niagara University encourages law enforcement personnel to access our website and the websites of the Virginia and national programs for continued education, review the resource manual and handouts, connect with community resources, and seek out additional training that is specific to each disability or topic area. Any and all questions relative to continuing education are welcome.

Call our office at 716-286-7355 or email us at frdat@niagara.edu.

Acquired/Traumatic Brain Injury (TBI)

Objectives:

- Define brain injury and how it manifests
- Acquired brain injury defined
- Stroke defined
- Concussions defined
- Severity of injuries
- Frontal lobe brain damage
- Speech disorders and brain injury
- Chronic Traumatic Encephalopathy (CTE) defined
- Temporal lobe brain damage defined
- Cerebellum brain damage defined
- Impact on Behavior
- Communication difficulties defined
- Traumatic injury and domestic violence correlation

Main points: TBI is a very challenging disability because the injury itself can affect many different areas of functioning and it will not present consistent across individuals. The injury can be very frustrating to an individual, which may bring about instances where law enforcement is summoned. In many cases, ABI/TBI will go undetected and misdiagnosed.

Content:

- PowerPoint: 84 pages
- Video:
  - TBI in Children
  - Individuals who have had a stroke
  - Mat Blankenship- Virginia Firefighter with TBI
  - Mike Webster/Gene Atkins- NFL players with CTE
  - Science of CTE
  - Brent- Firefighter with TBI
  - Fluent Aphasia
  - Beyond the Invisible
  - Peter- Man with a TBI

- Handout:
  - Brain Injury Facts
  - BIVA- Traumatic Brain Injury and Domestic Violence
  - Traumatic Brain Injuries in Virginia Data and Trends
  - TBI Today-Understanding Your Emotions
  - DARS-Services for People with Brain Injury In Virginia
  - Recovery After Stroke: Thinking and Cognition
  - Stroke 101: Fast Facts
  - Personality And Behavior Changes
  - BIVA Concussion Fact Sheet
  - BIAV-Basic Information on Brain Injury

Resources:

- Brain Injury Association of Virginia (BIAV) :Phone: 804.355.5748Fax: Website: www.biav.net
- Brainline.org: Phone: 703- 998-2020: Website: www.brainline.org
- Ohio State University Wexner Medical Center – Ohio Valley Center on Brain Injury Prevention and Rehabilitation – Phone: 614-293-3802; Website: www.ohiovalley.org/tbi-id-method/
- Resources, Advocacy and Funding for People with Traumatic Brain Injury and their Families – Phone: (888) 915-7600 Website: www.traumaticbraininjury.com

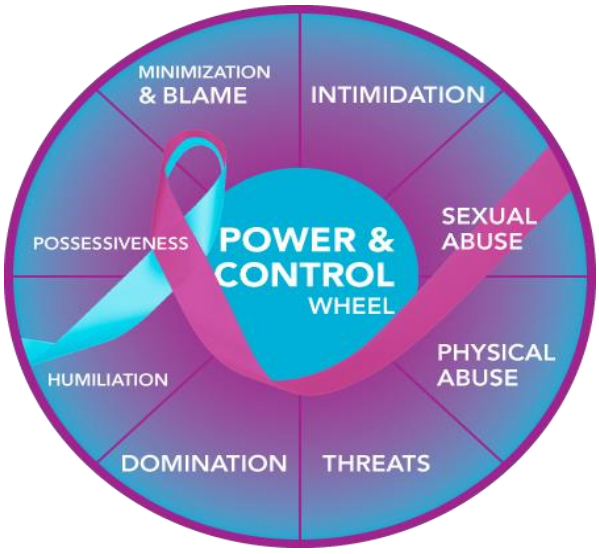
BRAIN INJURY ASSOCIATION OF VIRGINIA

Quick Guide

Traumatic Brain Injury and Domestic Violence

What is the connection between domestic violence and brain injury?

A cause of brain injury that has been under-reported and under-researched is domestic violence. Domestic violence, also known as intimate partner violence, is a **pattern of abusive behavior** in any relationship that is used by one partner to gain or maintain **power and control over** another intimate partner. Domestic violence can be physical, sexual, emotional, economic, or psychological actions or threats of actions that influence another person. Domestic violence can happen to anyone - it affects people of all ages, genders, races, and socioeconomic classes.



How big is the problem?

Current data on the intersection between domestic violence and traumatic brain injury (TBI) is limited in part because little research has been done on this population and because many instances of abuse go unreported by victims. The research we do have consistently indicates widespread problems:

- In 2016, approximately 21% of the reported 19,135 violent crimes committed in Virginia were committed against family members or intimate dating partners.
- It is estimated that as many as 23,000,000 women in the United States who have experienced intimate partner violence also live with brain injury.
- The CDC estimates that at least 156,000 TBI-related deaths, hospitalizations, and emergency department visits in the U.S. each year are related to **assaults**.
- The rates of TBI in women who are seen in the emergency room or in a domestic violence shelter are between 30 and 74 percent. Most of these injuries occur from a direct blow to the head or from strangulation, which can result in loss of oxygen to the brain.
- Only 34% of people injured by intimate partners receive medical care for their injuries.

Why is the connection to TBI and domestic violence often overlooked?

In domestic violence situations, due to emotional and physical trauma, survivors often experience depression, anxiety, tension and/or inability to adapt to changing situations. Survivors may also appear to have behavioral issues, including problems with keeping appointments, following through, or completing tasks that require multiple steps. Sometimes these problems are the direct result of a brain injury. Determining whether these symptoms and behaviors are due to a TBI or the result of emotional trauma, or BOTH, can be difficult.

The intersection of TBI and domestic violence is also complicated by the fact that violence is not only a cause, but a *consequence* of TBI. Specifically, TBI-related cognitive and behavioral problems can also result in aggressive behavior that leads to perpetration of violence, or a lack of insight and judgment, and resulting vulnerability, that can lead to victimization.[1] While a TBI

[1] U.S. Department of Justice
2 2017 Annual Report Domestic and Sexual Violence in Virginia, Virginia Office of Attorney General. https://www.oag.state.va.us/files/2017-DV-SV-Annual-Report.pdf
[3] *Assessment and Treatment of Brain Injury in Women Impacted by Intimate Partner Violence and Post-Traumatic Stress Disorder*, The Professional Counselor. Trish J. Smith, Courtney M. Holmes. 2018.
[4] *Breaking the Silence: Violence as a Cause and a Consequence of Traumatic Brain Injury.* Brain Injury Professional Magazine. Jean Langlois, ScD, MPH

[5] *Domestic violence often leads to traumatic brain injury*. Dr. Ann Marie Warren. http://scrubbing.in/domestic-violence-often-leads-traumatic-brain-injury/
[6] National Coalition Against Domestic Violence

can be a contributing factor to aggressive behavior, it does not cause or excuse patterns of abuse.

Because domestic violence is a pattern of abuse, victims are typically exposed to repeated instances of violence, which includes traumatic brain injuries. The effects of repeated brain injury are cumulative and not unlike those experienced by athletes who have had multiple concussions.

To **treat the whole person** and not just one symptom or behavior, service providers across health and social services need more **education, training, and resources** to recognize that the pattern of symptoms following abuse may include a brain injury.

What are some noticeable signs of (mild/moderate) TBI and domestic violence?

Remember, sometimes there are no visible or obvious signs of TBI or domestic violence. Signs of TBI and domestic violence can include:

- Loss of consciousness for a few seconds to a few minutes
- No loss of consciousness, but a state of being dazed, confused or disoriented
- Headache
- Nausea or vomiting
- Fatigue or drowsiness
- Problems with speech
- Difficulty sleeping
- Sleeping more than usual
- Dizziness or loss of balance
- Memory or concentration problems
- Mood changes or mood swings
- Feeling depressed or anxious
- Withdrawn
- Bruising
- Substance abuse
- Suicide attempts

Only a medical professional can diagnose and treat a TBI. Assessing domestic violence situations often involves a team of professionals that can include law enforcement, domestic violence service providers, mental health professionals, and more.

Service providers should keep in mind that brain injury can make it harder for a victim of domestic violence to[2]:

[7] *Breaking the Silence: Violence as a Cause and a Consequence of Traumatic Brain Injury*. Jean Langlois, ScD, MPH, Brain Injury Professional Magazine

[8] Mayo Clinic. https://www.mayoclinic.org/diseases-conditions/traumatic-brain-injury/symptoms-causes/syc-20378557

[9] New York State Office for the Prevention of Domestic Violence. Domestic Abuse and Traumatic Brain Injury Information Guide.

- Assess danger and defend against assaults.
- Make and remember safety plans.
- Go to school or hold a job (increasing financial dependency on the abuser).
- Leave an abusive partner.
- Access services.
- Adapt to living in a shelter/residential program for victims of violence. The person may become stressed, anxious and confused or disruptive, or have trouble understanding or remembering shelter procedures.

The signs and behaviors associated with TBI and domestic violence can look very similar – the impact of physical and emotional violence on the body and mind is complex. That's why practicing trauma-informed care when interacting with survivors is key.

Where can I get help?

Brain injuries can be life threatening.
If you have been injured, **seek medical help immediately**.
Dial 911 or seek emergency care.

If you need help creating a safety plan in order to seek medical care, call the Statewide Hotline for Family Violence and Sexual Assault or use their chat feature.
1.800.838.8238/http://www.vsdvalliance.org/resources-helpayuda/get-help/

Brain Injury Association of Virginia

- 1.800.444.6443 - Connect to information and resources via telephone or Chat www.biav.net

Virginia Sexual and Domestic Violence Action Alliance

- 1.800.838.8238 - Statewide Hotline for Family Violence and Sexual Assault or Chat http://www.vsdvalliance.org/resources-helpayuda/get-help/

Virginia Department for Aging and Rehabilitative Services Brain Injury Services Coordination Unit

- https://www.vadars.org/cbs/biscis.htm

Centers for Disease Control and Prevention

- https://www.cdc.gov/traumaticbraininjury/index.html

BRAIN INJURY ASSOCIATION OF VIRGINIA

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TRAUMATIC BRAIN INJURIES IN VIRGINIA

DATA AND TRENDS

INTRODUCTION

The Centers for Disease Control and Prevention define a traumatic brain injury (TBI) as an injury, "caused by a bump, blow or jolt to the head or a penetrating head injury that disrupts the normal function of the brain."[1] Traumatic brain injuries (TBIs) contribute substantially to both death and disability across Virginia. They account for approximately one-third of all injury-related deaths to Virginia residents each year, and roughly 15% of all injury-related inpatient, acute care hospitalizations. TBIs may range in severity from mild concussions to more severe injuries requiring long-term care or resulting in death.

SUMMARY

- In 2014, 1,565 Virginians died because of TBIs[2]. Furthermore, a total of 5,172 hospital discharges related to TBIs occurred that year[3].
- The TBI death rate among males in Virginia in 2014 was 28.2 per 100,000, nearly three times the rate among females (9.7). Similarly, TBI hospitalization is more likely to occur among males than females; the male rate in 2014 was 73.7, while the female rate was 50.8.
- By age group, the highest rates of TBI death and hospitalization occur among adults ages 65 years and over in Virginia. In 2014, the rate of TBI death in this age group was 45.8, more than two and a half times the rate among adults ages 25 to 64 years and more than four and a half times the rate among those under age 24. The rate of TBI hospitalization in those ages 65 and over was 216.2 in 2014, more than five times the rate among those ages 25 to 64 and nearly seven times the rate among those under age 24.

Figure 1a. 2014 TBI death rates were highest in the Southwestern region (26.8 per 100,000) and lowest in the Northern region (11.2)

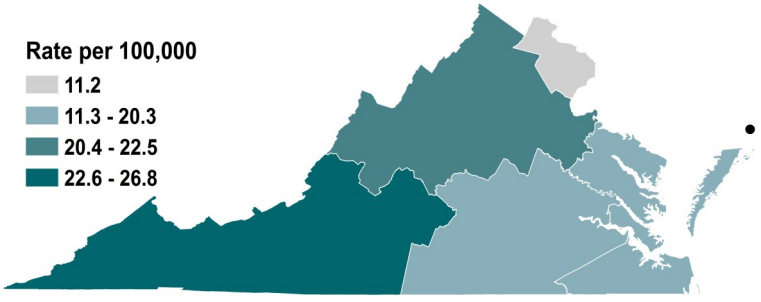
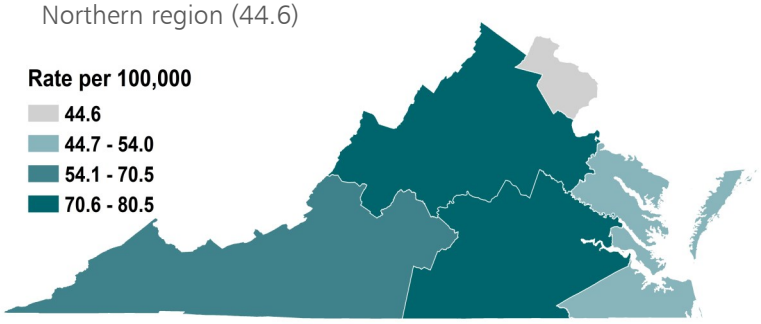


Figure 1b. 2014 TBI hospitalization rates are highest in the Central region (80.5 per 100,000) and lowest in the Northern region (44.6)



- TBI death and hospitalization rates vary by region in Virginia.
- The leading cause of TBI-related death in Virginia between 2010 and 2014 was firearms (3,008 deaths), followed by motor vehicle traffic (1,928 deaths) and falls (1,616 deaths). The leading cause of TBI-related hospitalization in the same period was falls (12,980 hospitalizations), followed by motor vehicle traffic (6,163 hospitalizations), and struck by/against injuries (1,402 hospitalizations). The majority of homicide and suicide deaths in Figure 4 for those older than infancy are attributable to firearms injuries, making that mechanism a leading cause of death for Virginians.
- More than half (55.3%) of all TBI-related deaths occurring between 2010 and 2014 were attributed to unintentional causes, compared to 88.2% of TBI-related hospitalizations.

Figure 2a. Males are more likely than females to die by TBI in Virginia than females

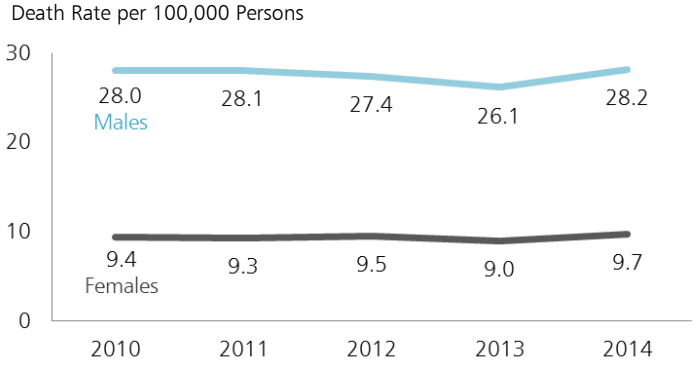


Figure 2b. Males are also more likely than females to be hospitalized for TBI in Virginia

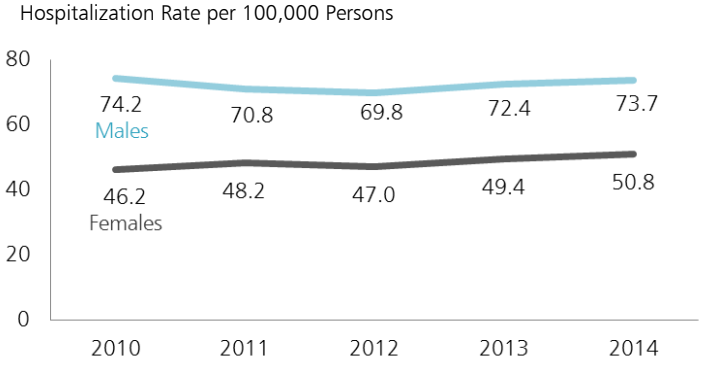


Figure 3a. Rates of TBI death are highest among the elderly

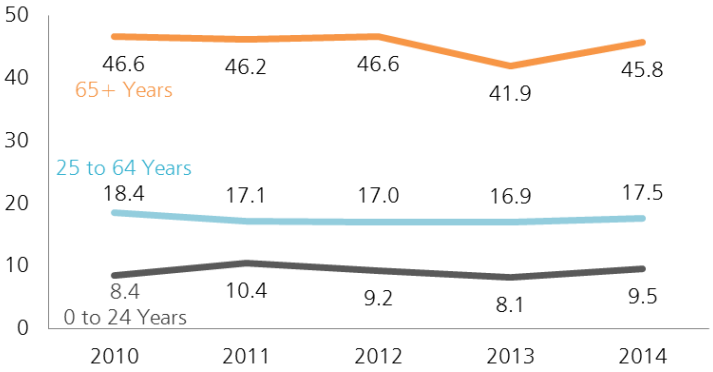


Figure 3b. Rates of TBI hospitalization are also highest

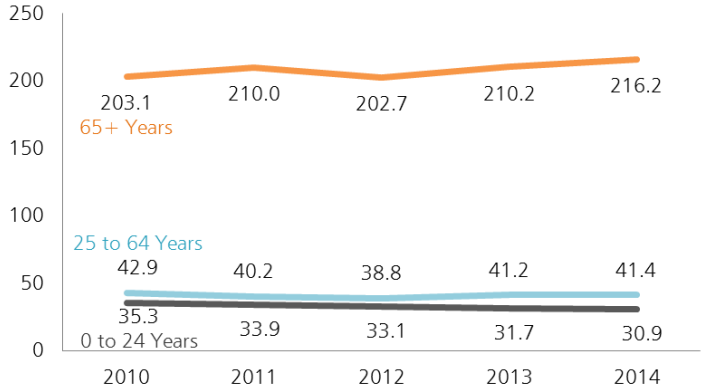
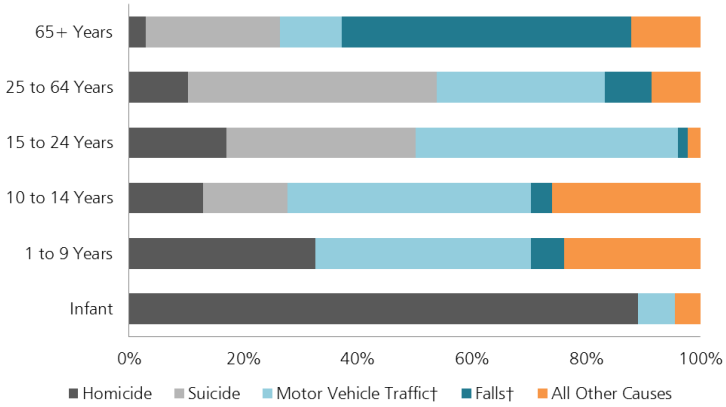
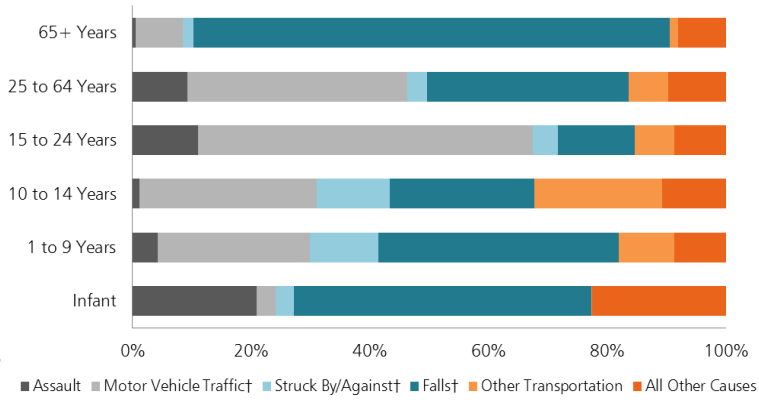


Figure 4. The leading causes of TBI death by age group in Virginia, 2010-2014



†Unintentional injuries only

Figure 5. The leading causes of TBI hospitalization by age group in Virginia, 2010-2014



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1. CDC Injury Center. Basic Information about Traumatic Brain Injury and Concussion. https://www.cdc.gov/traumaticbraininjury/basics.html. Accessed September 2, 2016.

2. Division of Population Health Data. Resident death certificate data from Virginia Vital Records database. Richmond, VA: Virginia Department of Health; 2016.

3. Division of Population Health Data. Resident hospital discharge data from Virginia Health Information database. Richmond, VA: Virginia Department of Health; 2016.

MORE INFORMATION

The majority of TBIs are preventable. If a TBI occurs, proper recognition and response can prevent further injury and can help with recovery. To learn more about preventing TBIs, visit the VDH Injury and Prevention Program: VDHLiveWell.com/tbi

Interactive data on TBI death and hospitalization trends at the state, regional and health district level are available through the Virginia Department of Health's Tableau Public data portal, at: www.vdh.virginia.gov/data/injury-violence/

Additional Virginia injury and violence data is available through the Virginia Online Injury Reporting System (VOIRS). VDHLiveWell.com/voirs

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TBI TODAY

News, Ideas, and Resources from the Virginia TBI Model System

UNDERSTANDING YOUR EMOTIONS

Part I: After injury, survivors and their family members often experience a variety of strong emotions. Many people describe feeling frustrated, angry, or sad about changes following the injury. Others talk about feeling worried or scared about what will happen in the future. Some people notice that their emotions change quickly, "like a roller coaster." Feeling misunderstood is also common. Strong emotions can weaken your ability to solve problems, handle challenges effectively, and get along with others. Recognizing, understanding, and controlling your feelings can be very difficult.

In the next couple of newsletters, we'll present a series of articles focusing on intense feelings and how to manage them effectively. In this newsletter, we'll present Parts I and II. Part I covers understanding and identifying your emotions. Part II covers barriers to communicating about your feelings. Part III will be included in the next newsletter and will focus on ways to manage intense emotions effectively.

The first step in controlling your emotions is recognizing how you feel and noticing when your emotions get in the way. If you can figure out how you're feeling early on, you can get your feelings under control faster and more easily. Then you'll be able to feel better and reach your goals more efficiently.

Take a moment to think about how you feel. Check off the boxes next to the sentences that describe you –

Review the items you've checked and the ones you haven't to better understand your feelings. The more items you've checked, the more likely it is that you are experiencing many different and strong emotions. Is there a pattern to the items you've checked? Show your checklist to someone you know and trust. Do you agree on the items that should be checked?

Once you recognize how you feel, you can take steps to help yourself cope with the emotions effectively. Talking about your feelings is an important first step to feeling better. But, many people have trouble talking about their feelings. In Part II (below), we'll talk about common barriers that keep people from talking with others about their feelings.

Part II: Talking about your feelings may be difficult. People often say they worry about what others will think of them. Others say they don't know who to turn to or who they can trust. Think about what gets in the way of talking to others about your feelings. The questionnaire on the following page will help you figure out the answer. Circle T (True) or F (False) to figure out the challenges you face in talking about your emotions.

- ❑ I often feel frustrated.
- ❑ I get angry easily.
- ❑ I can't do much to make things better.
- ❑ I don't like much about myself.
- ❑ I worry a lot.
- ❑ I have made many mistakes.
- ❑ I worry about the future.
- ❑ I'm lonely.
- ❑ I believe I am at fault for many of my family's problems.
- ❑ I feel sad.
- ❑ I cry over the least little thing.
- ❑ People don't understand me.
- ❑ I feel overwhelmed.
- ❑ My feelings change from minute to minute.
- ❑ I get upset easily.
- ❑ Very few people care about me.
- ❑ I have many fears.
- ❑ I feel like I should be doing more.
- ❑ I'm disappointed in myself.
- ❑ I wish my life could be the way it was before.
- ❑ I am often grouchy.
- ❑ Sometimes I feel I'm on top of the world.

TBI TODAY AVAILABLE ON-LINE!

Sign up for our mailing list and get the latest information and findings from the TBIMS mailed directly to your computer. Contact *TBI Today* editor, Debbie West, at ddwest@vcu.edu (804-828-8797) for information.

Look over your answers with family, friends, or trusted professionals. Think about the main things that are getting in the way of talking about your feelings.

- Is it that you feel like other people don't understand you or don't care?
- Do you feel uncomfortable around other people or uncomfortable talking about feelings?
- Do you have trouble recognizing how you feel or describing your feelings to other people?
- Do you worry about being able to trust others with personal information?

T F	1.	My feelings change from day to day.
T F	2.	Nobody understands what I am going through.
T F	3.	I feel uncomfortable around other people.
T F	4.	I'm worried about what others think of me.
T F	5.	Nobody cares about me.
T F	6.	I have a hard time describing my feelings.
T F	7.	I don't want to burden people with my feelings.
T F	8.	I feel uncomfortable talking about my feelings.
T F	9.	I don't know where to turn for help.
T F	10.	I can't hide my feelings like I used to.
T F	11.	I'm afraid to show my true feelings.
T F	12.	I don't want to upset people by talking about my feelings.
T F	13.	I'm afraid to let my guard down.
T F	14.	I keep my feelings bottled up.
T F	15.	I don't know how I'm feeling.
T F	16.	I don't feel anything anymore.

Each of these issues may get in the way of you talking to others about your feelings. Remember that talking to others about your feelings is a big step toward feeling better. Often, you need support from others to be able to deal with difficult emotions, so you can handle your responsibilities effectively. Asking for help lets people know that you value their support and involvement and offers chances to build relationships. Talk to trusted family, friends, and professionals about your feelings and about ways to cope with strong emotions. They may be able to give you some good ideas about ways to cope with your feelings.

We've talked to lots of survivors and their families to find out ways they cope with strong feelings. Here are a few strategies that have worked for other people. Look over this list and pick out which ones you think will work for you and your family:

- ***Remember that ups and downs are normal parts of life.*** Realize that your feelings are a common, normal response to your experience. Try to look forward to the ups!
- ***Stop the cycle before your emotions get too intense.*** Watch out for early warning signs of intense emotions. It's harder to calm down once they get out of control.
- ***Intense emotions often come in response to stress.*** Monitor your stress level and take steps to control your stress. Some stress management strategies actually work well for dealing with intense emotions too.
- ***Be hopeful and positive.*** Say positive things to yourself and others (e.g., "I will make it through this," "I'm trying my hardest," "I'm a good person"). Try to keep a good sense of humor.
- ***Recognize the difficulties and challenges you face, and how hard you are working to make things better.*** Give yourself credit when you control your emotions and express your feelings in positive ways.

This column was written by Laura Taylor and Jeff Kreutzer from the VCU TBI Model System Family Support Research Program. The program teaches families how to deal with stress and intense emotions. For more information about the program, please contact Laura at 804-828-3703, toll free at 866-286-6904, or by email at taylorla@vcu.edu.

EMOTIONAL ADJUSTMENT PROJECT

VCU's TBI Model System includes a research project to better understand how to look at emotional adjustment after brain injury. Participants for this study need to have had a traumatic brain injury and be at least 18 years old. If you have questions about the project or would like to be involved, please call *Jenny Marwitz* at: (804) 828-3704 or toll free (866) 296-6904, or email her at jhmarwit@vcu.edu.

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Recovery After Stroke: Thinking and Cognition

Stroke can cause physical problems. It can also affect cognition. Cognition refers to thinking abilities. It's how people use their brains to talk, read, write, learn, understand, reason and remember. Losing skills in this area may affect how you manage everyday tasks, take part in rehabilitation, and live on your own after stroke.

Stroke and Thinking Abilities

Every stroke is unique. The effect the stroke has on your thinking abilities depends on where and how the stroke injured the brain, and your overall health.

Each side of the brain controls different things. So, a stroke on one side of the brain will cause different problems than a stroke on the other side.

Damage to one side of the brain can cause loss of language skills (talking, reading, writing, understanding what people say). It can also cause "verbal memory" loss or the ability to remember things having to do with words. Damage to the other side may cause attention, thinking and behavior problems.

Stroke can also damage the front of the brain. In this case, you are more likely to lose your ability to control and organize thoughts and behavior. This makes it hard to think through the steps to complete a task. Front-brain strokes may not affect your ability to do or remember specific things.

Memory Loss

Memory loss after stroke is common, but not the same for everyone. There are many ways your memory can be affected by stroke.

- Verbal memory – memory of names, stories and information having to do with words.
- Visual memory – memory of faces, shapes, routes and things you see.
- If you have memory damage, you may have trouble learning new information or skills. Or you may be unable

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to remember and retrieve information.

- Stroke can cause vascular dementia (VaD), a greater decline in thinking abilities. Some experts believe that 10-20% of Americans over age 65 with dementia have VaD. This makes it second only to Alzheimer's disease as a leading cause of dementia.
- Therapies or medicines almost never fully restore memory after stroke. But, many people do recover at least some memory spontaneously after stroke. Others improve through rehabilitation.

What may help:

- ✓ Try to form a routine – doing certain tasks at regular times during the day.
- ✓ Try not to tackle too many things at once. Break tasks down into steps.
- ✓ If something needs to be done, make a note of it or do it right away.
- ✓ Make a habit of always putting things away in the same place where they can be easily seen or found.

Aphasia

After a stroke, one of the most common thinking problems is trouble with communication. Aphasia is one of these problems. About one million people in the United States have aphasia. Most cases are the result of stroke.

Aphasia is a partial or total loss of ability to talk, understand what people say, read or write. It may affect only one aspect of language. For example, you may be unable to remember the names of objects or put words together into sentences. More often, many aspects are affected at the same time.

There are several types of aphasia. They differ by where the brain is damaged.

- Global aphasia is the most severe form. People with global aphasia can speak few familiar words and barely understand what people say. They cannot read or write.
- Another form is Broca's, or nonfluent, aphasia. People with this often omit certain kinds of words from sentences, speak slowly and with effort, and have a hard time with grammar. They

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mainly speak short statements of less than four words, like “walk dog.”
- People with Wernicke’s or fluent aphasia talk easily. But they use the wrong sounds in words, say the wrong words, or even make up words.

You may recover from aphasia without treatment. Most, however, benefit from therapy by a speech and language therapist. The goal is to improve your ability to communicate with other people.

This is done by helping you get back some of your language skills and learning new ways of getting your message across when needed.

Communication tips:

- Use props to make conversation easier (photos, maps).
- Draw or write things down on paper.
- Take your time. Make phone calls or try talking to people only when you have plenty of time.
- Show people what works best for you.
- Stay calm. Take one idea at a time.
- Create a communication book that includes words, pictures and symbols that are helpful to you.
- The Internet can be used to talk to people via email or to create a personal web page for yourself.

What Can Help

- Get information on stroke recovery from National Stroke Association. Visit www.stroke.org or call 1-800-STROKES (1-800-787-6537).
- Contact your local stroke association.
- Join a stroke support group. Other survivors will understand, validate your issues, and offer encouragement and ideas for dealing with memory loss.

Professionals Who Can Help

✓ Neuropsychologist – a doctor who can diagnose and treat changes in thinking, memory, and behavior after stroke. Ask your neurologist for a referral.
✓ Speech and language therapist –

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to find one in your area call the American Speech-Language-Hearing Association at (800) 638-8255.

Rehabilitation is a lifetime commitment and an important part of recovering from a stroke. Through rehabilitation, you relearn basic skills such as talking, eating, dressing and walking. Rehabilitation can also improve your strength, flexibility and endurance. The goal is to regain as much independence as possible.

Remember to ask your doctor, "Where am I on my stroke recovery journey?"

Note: This fact sheet is complied from general, publicly available medical information and should not be considered recommended treatment for any particular individual. Stroke survivors should consult their doctors about any personal medical concerns.

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Stroke 101: Fast Facts on Stroke

- Stroke is a **brain attack**, cutting off vital blood flow and oxygen to the brain.
- In the United States, stroke is a leading cause of death, killing nearly 130,000 people each year, and a leading cause of serious, long-term adult disability.[1,2]
- There are an estimated **7,000,000 stroke survivors** in the U.S. over age 20.
- Approximately **795,000 strokes** will occur this year, one occurring every 40 seconds, and taking a life approximately every four minutes.[2]
- Stroke can happen to anyone at any time, regardless of race, sex or age.
- From 1997 to 2007, the annual stroke death rate fell approximately 34 percent, and the actual number of deaths fell by 18 percent.[2]
- Approximately **55,000 more women than men** have a stroke each year.
- **African Americans have almost twice the risk** of first-ever stroke compared with whites.
- Types of Stroke:
  - **Ischemic stroke** occurs when arteries are blocked by blood clots or by the gradual build-up of plaque and other fatty deposits. About 87 percent of all strokes are ischemic.
  - **Hemorrhagic stroke** occurs when a blood vessel in the brain breaks leaking blood into the brain. Hemorrhagic strokes account for thirteen percent of all strokes, yet are responsible for more than thirty percent of all stroke deaths.
- Two million brain cells die every minute during stroke, increasing risk of permanent brain damage, disability or death. Recognizing symptoms and **acting FAST** to get medical attention can save a life and limit disabilities.
- The prevalence of transient ischemic attacks (TIA – “mini strokes”) increases with age. Up to 40 percent of all people who suffer a TIA will go on to experience a stroke.
- The estimated direct and indirect cost of stroke in the United States in 2010 is $73.7 billion.

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Time is Brain. Call 9-1-1.

Few Americans know the signs of stroke. Learning them – and acting FAST when they occur – could save your life or the life of a loved one. Remember that stroke strikes FAST and you should too. Call 9-1-1.

Use the FAST test to recognize and respond to the signs of stroke.

F = FACE	Ask the person to smile. Does one side of the face droop?
A = ARMS	Ask the person to raise both arms. Does one arm drift downward?
S = SPEECH	Ask the person to repeat a simple sentence. Does the speech sound slurred or strange?
T = TIME	If you observe any of these signs (independently or together), call 9-1-1immediately.

Reducing Stroke Risk

Everyone has some stroke risk. Some risk factors are beyond your control, including being over age 55, being a male (stroke is more common in men than women at younger ages, but more women experience strokes at older ages and more women than men die from stroke), being African-American, having diabetes, and having a family history of stroke. If you have one of these risk factors, it is even more important that you learn about the lifestyle and medical changes you can make to prevent a stroke. However, everyone should do what they can to reduce their risk for stroke – learn more by reading and following the **Prevention Guidelines** below.

Medical stroke risk factors include:

Previous stroke, previous episode of TIA (or mini stroke), high cholesterol, high blood pressure, heart disease, atrial fibrillation and carotid artery disease. These

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medical risk factors can be controlled and managed even if you have already had issues with any of them in the past. Talk with your doctor about what will work best for you.

Lifestyle stroke risk factors include:

Smoking, being overweight and drinking too much alcohol. You can control these lifestyle risk factors by quitting smoking, exercising regularly, watching what and how much you eat and limiting alcohol consumption.

Public Stroke Prevention Guidelines

1. **Know your blood pressure**.
   If it is elevated, work with your doctor to keep it under control. High blood pressure is a leading cause of stroke. Have your blood pressure checked at least once each year—more often if you have a history of high blood pressure.
2. **Find out if you have atrial fibrillation (AF).**
   If you have AF, work with your doctor to manage it. Atrial fibrillation can cause blood to collect in the chambers of your heart. This blood can form clots and cause a stroke. Your doctor can detect AF by carefully checking your pulse.
3. **If you smoke, stop**.
   Smoking doubles the risk for stroke. If you stop smoking today, your risk for stroke will begin to decrease.
4. **If you drink alcohol, do so in moderation**.
   Drinking a glass of wine or beer or one drink each day may lower your risk for stroke (provided that there is no other medical reason you should avoid alcohol). Remember that alcohol is a drug - it can interact with other drugs you are taking, and alcohol is harmful if taken in large doses. If you don't drink, don't start.
5. **Know your cholesterol number**.
   If it is high, work with your doctor to control it. Lowering your cholesterol may reduce your stroke risk. High cholesterol can also indirectly increase stroke risk by putting you at greater risk of heart disease - an important stroke risk factor. Often times, high cholesterol can be controlled with diet and exercise; some individuals may require medication.

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6. **Control your diabetes.**
   If you are diabetic, follow your doctor's recommendations carefully because diabetes puts you at an increased risk for stroke. Your doctor can prescribe a nutrition program, lifestyle changes and medicine that can help control your diabetes.
7. **Include exercise in the activities you enjoy in your daily routine**.
   A brisk walk, swim or other exercise activity for as little as 30 minutes a day can improve your health in many ways, and may reduce your risk for stroke.
8. **Enjoy a lower sodium (salt), lower fat diet**.
   By cutting down on sodium and fat in your diet, you may be able to lower your blood pressure and, most importantly, lower your risk for stroke.
9. **Ask your doctor if you have circulation problems**.
   If so, work with your doctor to control them. Fatty deposits can block arteries that carry blood from your heart to your brain. Sickle cell disease, severe anemia, or other diseases can cause stroke if left untreated.
10. **Act FAST.**
    If you have any stroke symptoms, seek immediate medical attention.

[1] Miniño, Arialdi, Jiaquan Xu, and Kenneth Kochanek. *Deaths: Preliminary Data for 2008*. National Vital Statistics Reports (2010) 59.2.
[2] American Heart Association. *Heart Disease and Stroke Statistics – 2011 Update*. Dallas, Texas: American Heart Association; 2010.

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Recovery After Stroke: Personality And Behavior Changes

Changes in emotions, feelings and behavior are very common after a stroke. Your brain has been injured, and personality and behavior changes can be a reflection of the damage. Understanding and dealing with these emotional issues are as important as facing physical challenges during recovery.

Depression

Sadness and depression are common feelings after a stroke, but they should not be considered a "normal" part of recovery. Depression can prevent you from moving forward in your recovery process.

- Be familiar with the warning signs of depression. People who are depressed often talk about feeling worthless and tired. They may have changes in their appetite and weight, lose enjoyment in usual activities, and attempt or talk of suicide.
- If you suffer from depression, get help from professional counselors, stroke support groups, and/or family members.

Anger

Having a stroke can be an upsetting, life-changing experience. So it's not surprising to learn that many stroke survivors have feelings of anger and selfishness after their stroke. Not everyone who feels this way deals with it the same. You may talk about or act out your anger. Or you may shut down your emotions and not share your feelings with your loved ones. You may not really even be angry with others. It's important to remember that this behavior is a result of the brain injury.

- Swearing, refusal, boasting, or aggressive behavior are problems for nearly one in five stroke survivors.
- In a study of stroke survivors who didn't have a history of depression, almost one third were unable to control their

anger or aggression after the stroke. Researchers believe the behavior is more a result of brain injury than of post-stroke depression.

Mood Swings / Uncontrolled Emotions

You may have rapid mood swings or outbursts of uncontrolled or exaggerated emotion. This is known as emotional labiality or psuedobulbar affect (PBA). If you have PBA, the emotions you show are not related or are out of proportion to how you actually feel.

- PBA can cause impulsive, uncontrolled emotional reactions. You may burst into laughter or tears, for no obvious reason.
- The mood swings and uncontrolled emotions usually happen more often in the first few months after your stroke and then go away slowly over time.
- Although PBA is often confused with depression, it is not. It is key to know the symptoms of PBA and to not mistake them for depression or other psychiatric disorders.

Impulsivity

Behavioral changes vary depending on how serious the stroke was and where in the brain it took place. The right side of your brain controls emotions, how you communicate when you aren't talking (non-verbal communication), and your sense of your own body position (spatial orientation). Damage to this part of the brain can cause many emotional issues, including an impulsive style that can be dangerous.

- Stroke survivors who have had strokes on the right side of their brain don't always know how their brain is damaged. If you have had a right-brain injury, you may not know that you cannot do the things you could before the stroke. You may also experience short attention span, short-term memory loss and poor judgment.
- If you have an impulse, you may be unable to hold back from acting on a thought, such as rising from a wheelchair without checking to see if the brakes are locked.

- **What may help:**

✓ Try to maintain a safe environment
✓ Keep a day-to-day routine
✓ Have family members and caregivers monitor your activities
✓ Have family members and caregivers give orders in simple terms and repeat them often
✓ Have family members and caregivers point out the effects of the stroke.

Memory Problems/Confusion

Some stroke survivors act as if they remember things that in fact they do not remember. This is known medically as "confabulation" and should not be confused with intentional lying.

In most cases, the "confabulation" is the brain's way to cope with memory loss caused by stroke damage. People who do this are confused.

- People who "confabulate" are not deliberately lying or trying to mislead. They are genuinely unaware that their memories are inaccurate.
- The problem sometimes disappears over time.

What Can I Do?

Dealing with the personality and behavioral changes that accompany stroke can be difficult for survivors, caregivers and family members, but help is available.

- Ask your doctor about the best treatments and medicines for you.
- Talk to a professional counselor if necessary.
- Get information on stroke recovery from National Stroke Association at www.stroke.org or call (800) 787-6537, or contact your local stroke association.
- Join a stroke survivor support group.
- Have your caregiver join a caregiver support group, if necessary.

Professionals Who Can Help

- Licensed mental health professional
- General physician or doctor

Rehabilitation is a lifetime commitment and an important part of recovering from your stroke. Through rehabilitation, you relearn basic skills such as talking, eating, dressing and walking. Rehabilitation can also improve your strength, flexibility and endurance. The goal is to regain as much independence as possible.

Remember to ask your doctor "Where am I on my stroke recovery journey?"

Note: This fact sheet is compiled from general, publicly available medical information and should not be considered recommended treatment for any particular individual. Stroke survivors should consult their doctor about any personal medical concerns.

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BRAIN INJURY ASSOCIATION OF VIRGINIA

Quick Guide

Concussion

What is a concussion?

A concussion is a mild brain injury. It is caused by a bump, blow or jolt to the head, or by a hit to the body or fall that causes the head and brain to move rapidly back and forth. Often concussions are described as being "mild" but their affects can be serious. You can lose consciousness or be "knocked out" as a result of a concussion but this is not true in most cases.

What should you do if you have had a concussion? Take care of yourself after the injury and get evaluated by a medical professional. Go to the emergency room or make an appointment with your primary care doctor.

Don't wait if you see any of the below danger signs!

- Seizures (Convulsions) or Fixed Stares
- Pupils That Are Different Sizes
- Blood or Clear Liquid from the Nose or Ears
- Repeated Vomiting
- Severe Headaches That Get Worse
- Loss of Consciousness
- Sharply Increased Confusion, Agitation, Restlessness
- Weakness or Numbness in Arms or Legs
- Slurred Speech

The most common symptoms that result from a concussion are:

- Problems with thinking or remembering – feeling "foggy" or not remembering what happened.
- Physical problems such as headaches, sensitivity to light or loud noises.
- Changes in mood – feeling anxious, irritable, sad or nervous.
- Difficulty with sleep- feeling tired all the time and sleeping often or having difficulty sleeping.

Most people who have had a concussion recover quickly and fully but for some people symptoms can last for days, weeks or longer. Recovery may be longer for the elderly, teens and young children. If you

have had a concussion in the past you are at a higher risk to have another concussion and take longer to recover. Some of the symptoms might show up right away or they may appear later, especially if you try to return to normal activity too quickly.

Recovering from a concussion:

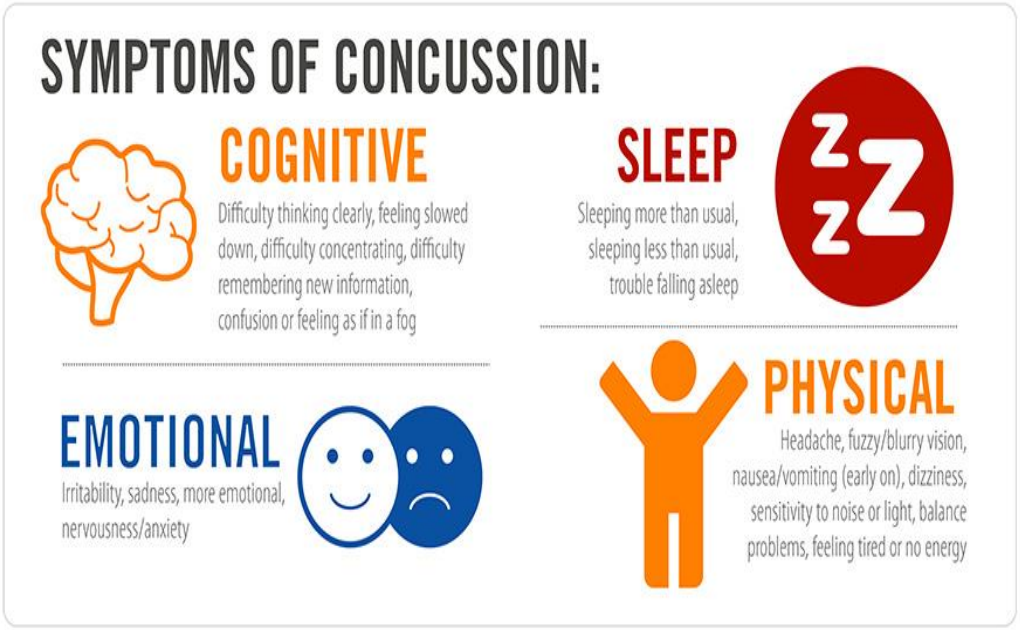
***Rest** – allows the brain to heal. Not sleeping after a concussion or needing to wake an individual periodically is a myth unless directed by a physician to do so. Slowly and gradually return to normal activity and if symptoms return or get worse you are doing too much too soon.

***Avoid physically demanding activities,** you are at risk to having another concussion.

***Avoid driving, riding a bike or operating equipment** – you may not realize it but after a concussion your balance and reaction time can be affected.

*** Alcohol and other drugs may slow your recovery** and may put you at risk for further injury.

If symptoms do not resolve you may need to seek additional medical help. The Brain Injury Association of Virginia can connect you to a brain injury specialist for additional treatment.



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Fax: 804.355.6381
info@biav.net

What is an important thing parents, teachers, and coaches should know about concussion?

If an athlete is suspected of having sustained a concussion during play then the very first rule is to remove the player from ALL play. The next step is to get an evaluation from a healthcare professional trained in concussion management. More information about concussion in school sports can be found on the CDC Website

When should you return to school or work?

The best available evidence tells us that gradually returning to activity is very important to recovery. A gradual return to activities, as long as it does not make symptoms worse, is the best approach. Start with half-days or part time attendance. Identify accommodations that will make the person most successful. Always monitor the injured person carefully, allow rest breaks, and look for signs that they are not doing well or feeling stressed.

What is Post-Concussive Syndrome?

Post-concussion syndrome is a complex disorder in which various symptoms — such as headaches and dizziness — last for weeks and sometimes months after the injury that caused the concussion. This term is often used as a "catch all" when symptoms persist. This term has been described as not helpful to patients. The Ontario Guidelines (2015) for persisting symptoms recommends careful and thorough differential diagnoses of chronic pain, depression, anxiety disorders or other medical/psychiatric issues. The specialist should be reviewing medications and treatments and treat the symptom individually.

What is Chronic Traumatic Encephalopathy (*CTE*)?

CTE is a progressive degenerative disease, it was first associated with professional athletes, such as boxers and football players, who experienced repeated blows to the head. The symptoms have life-changing effects for both the individual and for his or her family. Some of the most common symptoms include loss of memory, difficulty controlling impulsive or erratic behavior, impaired judgment, behavioral disturbances (including aggression and depression), difficulty with balance, and a gradual onset of dementia. Right now, CTE can only be confirmed by examining the brain after death. An individual with CTE may be misdiagnosed as having Alzheimer's, Parkinson's disease, or Dementia

Where can I get help?

Brain Injury Association of Virginia

1.800.444.6443 - Connect to information and resources via telephone or Chat www.biav.net

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BRAIN INJURY ASSOCIATION OF VIRGINIA

Quick Guide

Basic Information on Brain Injury

Traumatic vs. non-traumatic brain injury

Brain injury can be called by different names, like concussion, shaken baby syndrome, and head injury. The brain can be hurt in many different ways; injuries to the brain are typically classified as non-traumatic or traumatic.

Non-Traumatic injuries occur as a result of something internal to the brain… like stroke, lack of oxygen, infection, brain tumors, and exposure to toxic substances. The challenges someone with a non-traumatic injury faces can be different, but are often very similar to those faced by someone with a traumatic injury.

Traumatic injuries fall into two categories:

- *Open* head injuries are those in which the skull is crushed or seriously fractured. Open head injuries also happen when the skull is penetrated, as in a gunshot wound.
- *Closed* head injuries, in which the skull is not damaged, occur much more often, usually because of a car accident or fall.

How does the brain work?

The brain is divided into different parts called *lobes* and *hemispheres.* While the whole brain works together to get things done, its different parts are responsible for different jobs.

What are some noticeable changes after brain injury?

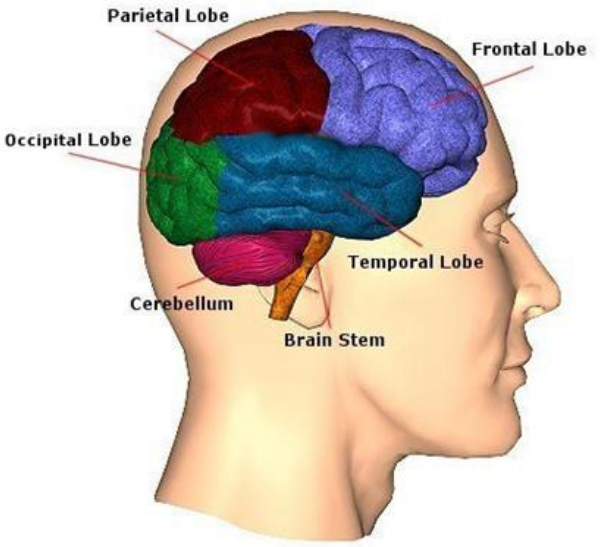
The Cerebellum (just above the stem) controls balance and coordination.

The Brain Stem (the bottom of the brain) is responsible for basic life functions like heart beat, breathing, and blood pressure.

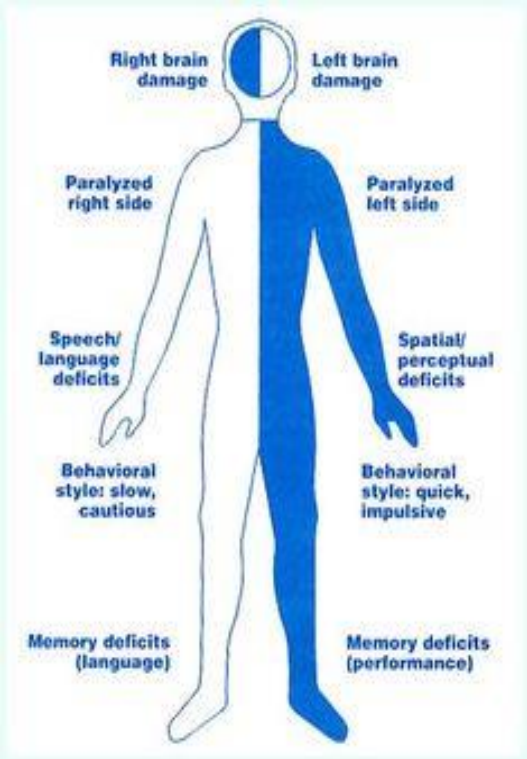
The Occipital lobe (at the back of the head) controls vision.

The Temporal lobes (on the sides of the head) manage speech, language, memory, and hearing.

The Parietal lobes (on the top of the head) interpret sensations and the position of our body and other objects.



The Frontal lobe (at the front of the head) helps us control our emotions and impulses, motivates us, and helps us plan and make good decisions.



The changes seen after a brain injury depends on a number of factors such as (but not limited to): the severity of the injury, where and how the damage was sustained, how quickly the person was diagnosed and treated, their general health and age at the time of injury.

Common physical changes after brain injury include difficulty walking, trouble with balance, falling or bumping into things, dizziness, spasticity (very tight muscles), and poor coordination, difficulty grasping objects, headaches, nausea, fatigue, and seizures.

Common sensory changes after brain injury include vision, hearing, smell and taste disturbances

Common cognitive problems after brain injury include trouble with memory, concentration and attention, following directions, finding the right word, problem solving, abstract thinking, organization, planning, social judgment, decision making, self-monitoring, and initiating tasks.

Common behavioral/emotional changes after brain injury include irritability, mood swings, acting without thinking, difficulty accepting someone else's point of view, sadness, low energy, low self-esteem, hostility, depression, and anxiety.

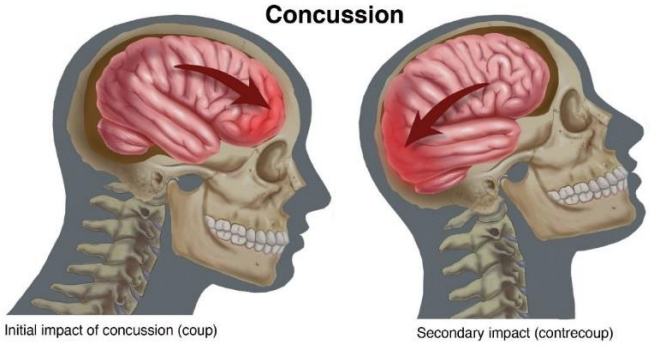
What about concussion?

Most often caused by blows to the head, these traumatic brain injuries usually result in temporary symptoms but more serious concussions can do permanent damage. The majority of sports related concussions occur without loss of consciousness or obvious neurological signs.

- The Seattle Sports Concussion Research Collaborative estimates 1 million and 1.9 million concussions occur annually among kids aged 18 and younger due to sports and recreation injuries.
- Data from the University of Pittsburgh Medical Center suggests 5 of 10 concussions go unreported or undetected, and 2 in 10 high-school athletes who play contact sports will suffer a concussion this year.

Several things happen to the brain during traumatic injuries. The effects of some of these can go on for quite some time after the actual accident.

- The brain bounces around in the skull and rubs against the bony ridges on the inside of the skull; *this is known as a coup/contra-coup injury*. It can cause bleeding, swelling and increased pressure in the brain.



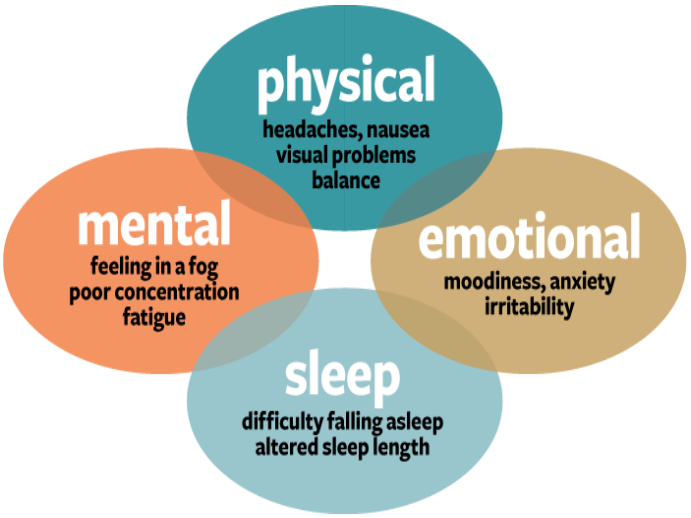
Most individuals recover in 10–14 days. If the symptoms listed below persist beyond that time frame, seek treatment from someone who understands brain injury.

Levels of severity: There is some controversy about grading the severity of concussions, but it does provide some guidelines that can be helpful:

Grade 1: Confusion lasting less than 15 minutes

Grade 2: Confusion and amnesia lasting more than 15 minutes

Grade 3: Brief unconsciousness, more serious amnesia



After a brief period of rest during the acute phase (24–48 hours) after injury, patients can be encouraged to become gradually and progressively more active while staying below activity that worsens their cognitive and physical symptoms. And it's OK to let them sleep.

What can I do to help recovery?

Although the physical, sensory, cognitive and psychological changes may improve with treatment and time, they may not go away completely. The key for most survivors and caregivers is learning how to recognize the difficulties that have been caused by their brain injury and how to manage them. The best way to do that is through the use of compensatory strategies, which involves using different ways to accomplish a task that is more difficult since the injury.

Compensatory strategies focus on a person's intact skills and strengths to help them be successful with overcoming challenges in the areas of self-care, attention, memory, behavior. We all use some of these methods. These strategies can be simple, like writing things down in notebooks, posting notes on the refrigerator, or carrying a pocket calendar; some can be more complex, like smart phones, medication alarms, or emergency response systems. Compensatory strategies do not fix the underlying problem; it takes more time, energy, and attention to make them work, but when used consistently, they can dramatically improve function.

Recovery from brain injury can last a lifetime, even though formal rehabilitation ends. When that happens, the survivor and those who care about him or her need to find ways to manage the day to day challenges and continue the

recovery process. Good rehabilitation lays a foundation for managing opportunities and challenges, and life in general.

It is important for the individual who has sustained a brain injury to have a structured environment and setting. The environment and the structured setting can play an important role in the rehabilitation and recovery process.

- Provide consistent schedule or routine, (same times for morning routine, etc.).
- Arrange living quarters for easy access to items used daily (i.e. bed, dresser, closet, bathroom, etc.) Keep items within reach and in a consistent location.
- Make sure living quarters allows for safe and easy mobility.
- Ensure adequate lighting is available. It is important to note that fluorescent lighting may be too bright for the individual.
- Display familiar pictures of family, friends, and pets.
- Use objects familiar to the individual.
- Be mindful that too much noise/audio may be overwhelming for the individual.
- Be mindful that the individual may have difficulty concentrating if there is excess noise/activity in the room.
- Go outside and get a breath of fresh air.
- Too many people can be overwhelming.
- Speak with minimal or no background noise. (Hearing other sounds such as water running, the TV or radio, background conversation, airplanes, dog barking, etc. can be very distracting.)
- Speak of familiar names and places; talk of shared interests and experiences.
- Converse when the individual is awake and alert, not tired.
- Encourage communication

Where can I get help?

Brain Injury Association of Virginia

- 1.800.444.6443 - Connect to information and resources via telephone or Chat www.biav.net

Virginia Department for Aging and Rehabilitative Services Brain Injury Services Coordination Unit

- https://www.vadars.org/cbs/biscis.htm

Centers for Disease Control and Prevention

- https://www.cdc.gov/traumaticbraininjury/index.html

BRAIN INJURY ASSOCIATION OF VIRGINIA

1506 Willow Lawn Drive, Suite 212 Richmond, VA 23230 www.biav.net 800-444-6443

This project is supported [in part] through state general funds (Contract #16-002A) administered by the Virginia Department for Aging and Rehabilitative Services (DARS).

VIRGINIA DEPARTMENT FOR AGING AND REHABILITATIVE SERVICES

SERVICES FOR PEOPLE WITH BRAIN INJURY IN VIRGINIA

4/2017

State Administered Services

The following services and programs are administered directly by the Department for Aging and Rehabilitative Services:

The ***Brain Injury Services Coordination Unit (BISCU)*** is located at the **Department for Aging and Rehabilitative Services (DARS**), Virginia's designated "lead state agency" for planning and monitoring services that enhance the quality of life and vocational goals of persons with acquired brain injury. BISC Unit manages about $6 million in programs and services, primarily through federal/state grants, and state-funded contracts with organizations across the Commonwealth. BISC Unit provides information and consultation about acquired brain injury to DARS staff and external customers. BISCU staffs the Commonwealth Neurotrauma Initiative Trust Fund and the statewide Virginia Brain Injury Council. *Contact Patricia Goodall at 804/662-7615, 800/552-5019, TTY 800/464-9950 or e-mail* Patti.Goodall@dars.virginia.gov *or on-line* http://www.vadars.org/cbs/biscis.htm.

- ***Brain Injury Direct Services (BIDS) Fund*** provides short-term specialized services, assistive technology, and equipment / goods that people with brain injury may need to live more independently and move forward in their recovery. Funds are limited and can be used only if no other funding source is available ("fund of last resort"); it is recommended that you contact DARS prior to applying for funding. BIDS Fund does *not* pay for inpatient medical rehabilitation or any type of residential services. Individuals must be one year post-injury and meet disability and financial criteria. *Contact Patricia Goodall at 804/662-7615, 800/552-5019, TTY 800/464-9950 or e-mail* Patti.Goodall@dars.virginia.gov *or on-line* http://www.vadars.org/cbs/biscis.htm.

- ***Commonwealth Neurotrauma Initiative (CNI) Trust Fund***, established legislatively in 1997 for the purpose of "improving the treatment and care of Virginians with traumatic spinal cord or brain injuries," disburses funding to Virginia-based organizations, institutions, and researchers through a competitive grant process administered by DARS. The Advisory Board awards grant funds of $5,000 to $150,000 per year for up to three years in alternating cycles for either *research* or *community based services* grants. *Contact Wanda Allen 804/662-7154* or Wanda.Allen@dars.virginia.gov *or on-line* http://www.vacni.org**.**

- ***Federal Traumatic Brain Injury (TBI) Implementation Partnership Act*** funding was awarded to DARS for a four-year grant project entitled, "***Facilitating Access to Care and Enhancing Services*"** for the period 2014-18. The primary goals of the grant focus on Information and Referral, Professional Training, Screening, and Resource Facilitation, all designed to expand and strengthen the state's infrastructure. Three DARS subcontractors assist in carrying out grant activities: the primary contractor is the Brain Injury Association of Virginia (BIAV). In addition, James Madison University completed a Year 1 study on the access of Virginians with brain injury to neurobehavioral services, and in Years 2-4 of the grant, the University of Virginia is implementing a brain injury screening program at eight community sites (2 AAAs, 2 CILS, 2 Free and Charitable Clinics, and 2 CSBs). The DARS Federal grant does not provide direct services to consumers; it is a systems-change grant. *Contact Donna Cantrell at 804-622-7069 or 800/552-5019, TTY 800/464-9950 or e-mail* Donna.Cantrell@dars.virginia.gov *or on-line* http://www.vadars.org/cbis.htm.

Centers for Independent Living (CILs) provide services statewide that promote the independence, productivity, and leadership of people with disabilities. CILs are operated by people with disabilities who assist others to take charge of their own lives. CILs work with individuals and communities to remove barriers to independence. Services include information / referral, peer counseling, independent living skills training, and individual and systems advocacy. There are 16 CILs and four satellite CILS located throughout Virginia. *Contact Rhonda Jeter at 804-325-1360 (voice and VP) or 800/552-5019, TTY 800/464-9950; e-mail* Rhonda.jeter@dars.virginia.gov *or on-line* http://www.vadars.org/cbs/cils.htm.

Community Rehabilitation Case Management Services (CRCMS) Program provides case management / service coordination for individuals with central nervous system and other severe functional disabilities (including brain injury). Rehabilitation Specialists assist in identifying individual needs and identify resources to increase independent living and community integration. *Contact Carolyn Turner at 800/552-5019, TTY 800/464-9950, e-mail* Carolyn.Turner@dars.virginia.gov *or on-line* http://www.vadars.org/cbs/ltcrm.htm.

Dementia Services Coordination Unit works with the Virginia Alzheimer's Disease and Related Disorders Commission to achieve the goals of the State's Dementia State Plan to help meet the needs of Virginians with dementia. The Coordinator disseminates information to the public, health care professionals and advocacy groups; coordinates services and activities among organizations that connect Virginians with dementia and their caregivers; and identifies memory assessment centers to share information. *Visit* www.vadars.org/cbs/dementiaservices.htm *to learn more or contact Devin Bowers at 804-662-9154 or email* devin.bowers@dars.virginia.gov *or by call 800/552-5019, TTY 800/464-9950.*

Personal Assistance Services for People with Brain Injury (PAS/BI) provides personal assistance to people with significant functional limitations due to a physical disability caused by a brain injury and who are ineligible for attendant services through other sources. The consumer and a consumer-designated representative manage all aspects of employing a personal assistant. Services may include assistance getting in/out of bed, dressing, bathing, meal preparation, and housework. Priority is given to individuals at risk of institutional placement. *Contact Pat Norton at 800/552-5019, TTY 800/464-9950, e-mail* Patricia.Norton@dars.virginia.gov *or on-line* http://www.vadars.org/cbs/pas.htm**.**

Vocational Rehabilitation (VR) Program is the federal/state funded program within the **Department for Aging and Rehabilitative Services (DARS)** that offers employment-related assistance to persons with disabilities, including people with brain injuries. Individuals who meet disability and financial eligibility criteria work with a Vocational Rehabilitation Counselor to jointly develop an Individualized Plan for Employment (IPE) that identifies an employment goal, as well as services or training to achieve that goal. Services include evaluation of skills and abilities; help determining an employment goal; counseling and guidance; vocational training; and job seeking / job placement services. *Contact DARS at 800/552-5019, TTY 800/464-9950, or on-line* http://www.vadars.org**.**

Wilson Workforce and Rehabilitation Center (WWRC) is a state-funded rehabilitation facility operated by the **Department for Aging and Rehabilitative Services (DARS)** that offers an array of residential and outpatient services ranging from a comprehensive rehabilitation therapy program to vocational training to short-term assessment. Eligible individuals with acquired brain injury may receive supplemental specialized services such as neuropsychological assessment and therapy / counseling; cognitive rehabilitation services; independent living / community re-entry skills; and physical, occupational, and speech / language therapies. *Contact Rick Sizemore at 540/332-7044 or 800/345-9972/ TTY 800/811-7893 or e*-mail Rick.Sizemore@wwrc.virginia.gov *or on-line* http://www.wwrc.net/menuroot/VR-brain-injury-services.htm**.**

State Contracted Programs/Services

The following organizations receive Commonwealth of Virginia state general funds to provide programs/services through contracts managed by the Department for Aging and Rehabilitative Services:

Brain Injury Association of Virginia (BIAV) provides **statewide** information and support to people with brain injury, family members, and professionals. BIAV services include a toll-free help-line, an information clearinghouse and resource library, referrals to brain injury-specific and general community resources, technical assistance to a statewide network of support groups, systems advocacy, educational events, and an adult camp for survivors. *Contact Anne McDonnell, Executive Director, Brain Injury Association of Virginia, 1506 Willow Lawn Drive, Suite 212, Richmond, VA 23230, by phone 804/355-5748, Toll-free Help Line 800/444-6443, e-mail info@biav.net, or on-line http://www.biav.net.*

Brain Injury Services, Inc. (BIS INC) provides information and referral and case management for adults and children in **Northern Virginia,** Additional services include: supported living, counseling, assistive technology and vocational services for adults with brain injuries in **Northern Virginia**; case management is also available in the **Fredericksburg** area for adults, children and adolescents and for adults in the **Winchester** area. BIS INC also operates two day programs: The Adapt Clubhouse (in **Fairfax)** and **Fredericksburg Community Services**. *Contact Denise Hyater, Executive Director, Brain Injury Services, Inc., 8136 Old Keene Mill Road, Suite B102, Springfield, VA 22152, by phone 703/451-8881, e-mail dhyater@braininjurysvcs.org, or on-line http://www.braininjurysvcs.org.*

Brain Injury Services of Southwest Virginia (BISSWVA) provides information and referral, case management, Community Support Services (life skills training), and a unique tele-health program known as the Community Living Connection (CLiC) for survivors of brain injury throughout **Southwest** and parts of **Southside** Virginia. *Contact Krystal Thompson, Executive Director, Brain Injury Services of Southwest Virginia 3904 Franklin Road, Suite B, Roanoke, VA 24014-3039, by phone 866-720-1008, e-mail krystal@bisswva.org, or online http://www.bisswva.org.*

Community Brain Injury Services operates two Clubhouse model programs: The Mill House serving the **Greater Richmond area** and Denbigh House serving the **Virginia Peninsula area**. Clubhouse members are actively involved in daily operations of the clubhouse through a "work-ordered day" which leads to improved work skills and behaviors that support community and vocational re-entry. Clubhouses offers an array of services including, limited case management services, volunteer placement services and an array of vocational services, including Employee Development Services (EDS) which provides a structured and in-depth assessment of an individual's work-related skills and abilities and Supported Employment (SE) services. CBIS also provided long-term Case Management services and employs two full time case managers which provide services to individuals residing in the **Greater Richmond** metropolitan area *Contact Jason Young, Executive Director, Community Brain Injury Services, 681 Hioaks Road, Ste. G. Richmond VA. 23225, by phone* 804-386-0925 *e-mail* Jason@communitybraininjury.org, *or on-line at* http://www.communitybraininjury.org.

Crossroads to Brain Injury Recovery (CBIR) provides information and referral, case management, Community Support Services (life skills training), and volunteer placement for individuals with brain injury in the Greater Shenandoah Valley to include the counties of **Rockbridge, Augusta, Bath, Highland**, and **Rockingham**; and the cities of **Harrisonburg, Lexington, Buena Vista, Waynesboro,** and **Staunton**. Crossroads' main office is located in Harrisonburg on the James Madison University Campus. The organization also has a satellite office at Wilson Workforce and Rehabilitation Center in Fishersville. *Contact Tamara Wagester, Crossroads to Brain Injury Recovery, Blue Ridge Hall MSC 9020, Harrisonburg, VA 22807, by phone 540-568-8923, e-mail tamar@c2bir.org or on-line at http://www.c2bir.org.*

Eggleston Services, Inc. operates Beacon House, a clubhouse program for people with brain injury in the **South Hampton Roads** area. Clubhouse members are actively involved in the daily operation of the clubhouse through a "work-ordered day" which leads to improved work skills and behaviors that support community and vocational re-entry. *Contact Joann Mancuso, Director Beacon House, 3808C Virginia Beach Boulevard, VA 23452, by phone 757/631-0222, e-mail mancuso.joann@egglestonservices.org, or on-line www.egglestonservices.org.*

No Limits Eastern Shore (NLES) operates No Limits, a day program for people with brain injury on the **Eastern Shore**. Day programs provide individuals with brain injury the opportunity to participate in structured activities in a supportive environment. Activities are designed to enhance productivity, independence and inclusion and include cognitive, community impact, productivity, health and wellness, and independent living skills development activities. *Contact Rachel Evans, Executive Director, No Limits Eastern Shore, PO Box 259, 24546 Coastal Boulevard, Tasley VA 23441, by phone (757) 789-3990, e-mail nolimitseasternshore@gmail.com, or on-line at www.nolimitseasternshore.com.*

The Bridge Line provides Case Management Services in the **Charlottesville/Albemarle County** areas of the State and operates the BridgeLine Place, a clubhouse for individuals with brain injury in the **City of Charlottesville.** Clubhouse members are actively involved in the daily operation of the clubhouse through a "work-ordered day" which leads to improved work skills and behaviors that support community and vocational re-entry. *Contact Leigh Wion, Associate Executive Director, The Bridge Line, 953 2nd St. SE, Suite 410, Charlottesville, VA 22902 (mailing address:PO Box 7292, Charlottesville, VA 22906) or by phone 434/220-4596, e-mail lwion@thebridgeline.org or online at www.thebridgeline.org.*

Virginia Supportive Housing (VSH) provides case management services to residents of two community homes for people with brain injury in the **Richmond** metropolitan area: Independence House, which houses six individuals, is located in the Fulton Hill community, and Bliley Manor, which houses eight individuals, is located in the Southside of Richmond. Limited follow-up case management is available to individuals who have moved on to more independent residential settings. *Contact Stephanie Arnold, TBI Case Manager, Virginia Supportive Housing,* 5008 Monument Ave, Suite 200, PO Box 8585, Richmond, VA 23226, *by phone* 804/921-3466, e-mail *sarnold@virginiasupportivehousing.org*, or on-line *http://www.virginiasupportivehousing.org.*

Brain Injury Facts

Brain Injury Association of America

About Brain Injury

Traumatic Brain Injury (TBI)

A traumatic brain injury is defined as an alteration in brain function, or other evidence of brain pathology, caused by an external force.

Typical Causes of TBI

- Falls
- Assault
- Motor Vehicle-Traffic
- Struck by/Against
- Sports Injury

Acquired Brain Injury (ABI)

An acquired brain injury is an injury to the brain, which is not hereditary, congenital, degenerative, or induced by birth trauma. An acquired brain injury is an injury to the brain that has occurred after birth.

Typical Causes of ABI

- Stroke
- Near Drowning
- Seizure Disorders
- Electric Shock
- Lightning Strike
- Oxygen Deprivation (Hypoxia/Anoxia)
- Substance Abuse
- Infectious Disease
- Tumor
- Toxic Exposure

Symptoms of Brain Injury

- **Physical Impairments-** speech, vision, hearing, headaches, motor coordination, spasticity of muscles, paresis or paralysis, seizure disorders, balance, and fatigue.
- **Cognitive Impairments-** short term memory deficits, impaired concentration, slowness of thinking, limited attention span, impairments of perception, communication skills, planning, writing, reading, and judgment.
- **Emotional Impairments-** mood swings, self-centeredness, anxiety, depression, lowered self-esteem, sexual dysfunction, restlessness, lack of motivation, and difficulty controlling emotions.

Tips to Aid Recovery

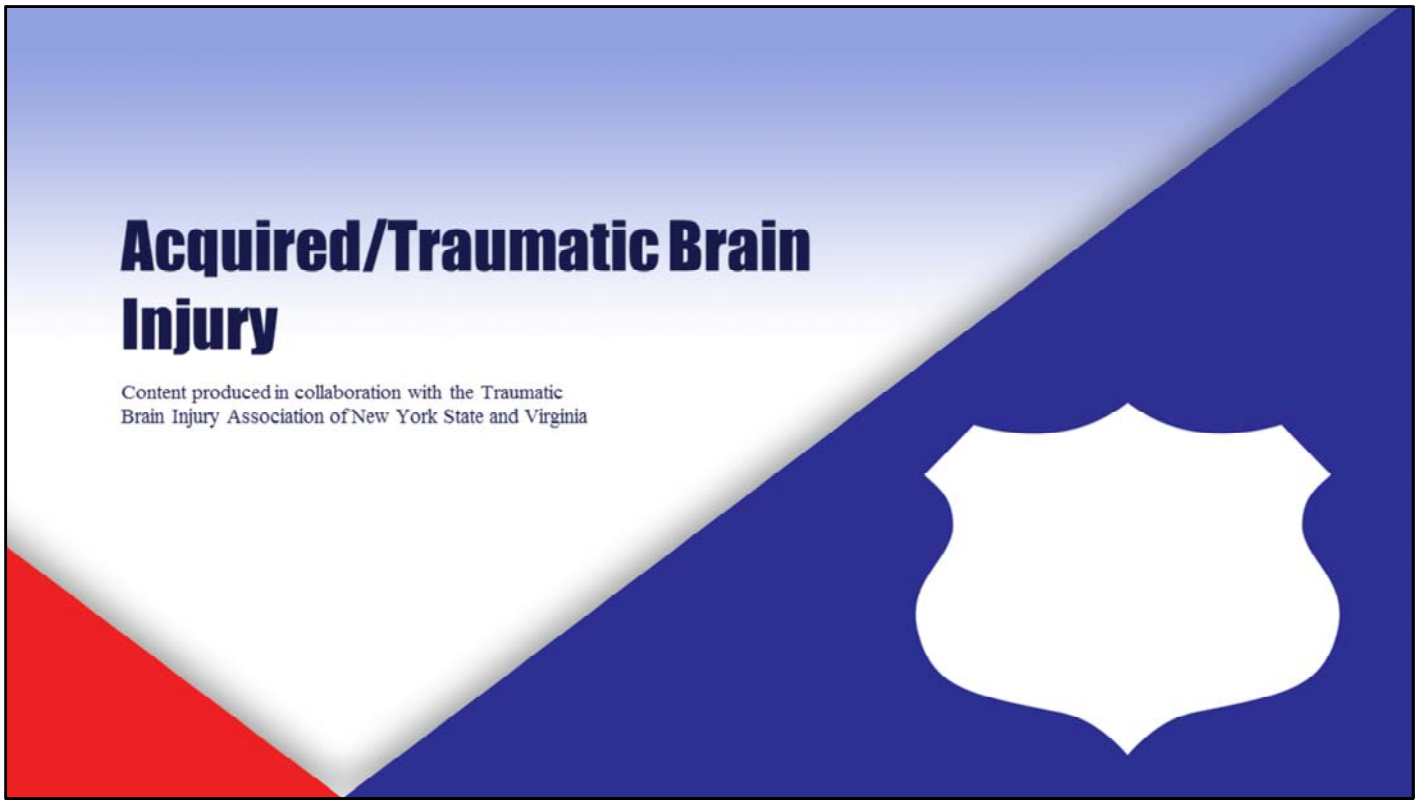
- If you suspect a head injury, first go to a physician for an exam.
- Get lots of rest. Don't rush back to daily activities such as work or school.
- Avoid doing anything that could cause another blow or jolt to the head.
- Ask your doctor when it's safe to drive a car, ride a bike, or use heavy equipment because your ability to react may be slower after a brain injury.
- Take only the medications your doctor has approved, and don't drink alcohol until your doctor says it's OK.
- Write things down if you have a hard time remembering.
- You may need help to re-learn skills that were lost. Contact the Brain Injury Association in your state to learn more about the programs, supports, and services available to people with brain injury and their families.
- Visit www.biausa.org for resources and support.

Severity of Brain Injury

Emergency personnel evaluating an individual who recently sustained a brain injury typically assess the severity of a brain injury by using an assessment called the **Glasgow Coma Scale (GCS).** The scale, which generates a score between 3-15, comprises three tests: eye opening, verbal and motor responses.

NOTE: There may be no correlation between the initial Glasgow Coma Scale score and the initial level of brain injury and a person's short or long-term recovery or functional abilities.

3 Severe Traumatic Brain Injury (GCS below 8) **8** Moderate Traumatic Brain Injury (GCS 8-12) **12** Mild Traumatic Brain Injury (GCS above 12) **15**

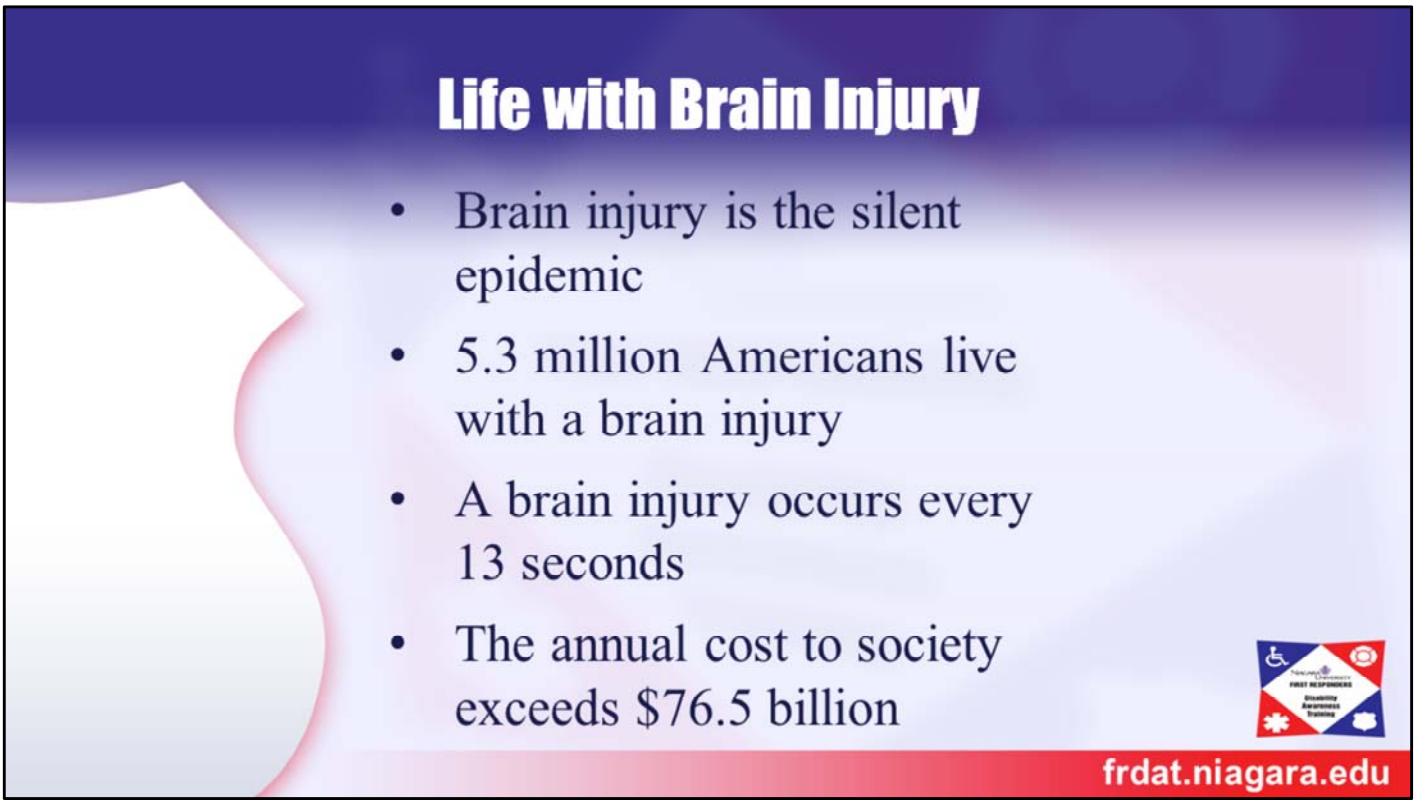


- **Review all handouts with your audience**
- **Go through each one noting the highlighted areas**
- **Provide a hard copy and/or forward an electronic version to attendees**

HANDOUTS –

1. Brain Injury Facts
2. BIVA- Traumatic Brain Injury and Domestic Violence
3. Traumatic Brain Injuries in Virginia Data and Trends
4. TBI Today-Understanding Your Emotions
5. DARS-Services for People with Brain Injury In Virginia
6. Recovery After Stroke: Thinking and Cognition
7. Stroke 101: Fast Facts
8. Personality And Behavior Changes
9. BIVA Concussion Fact Sheet

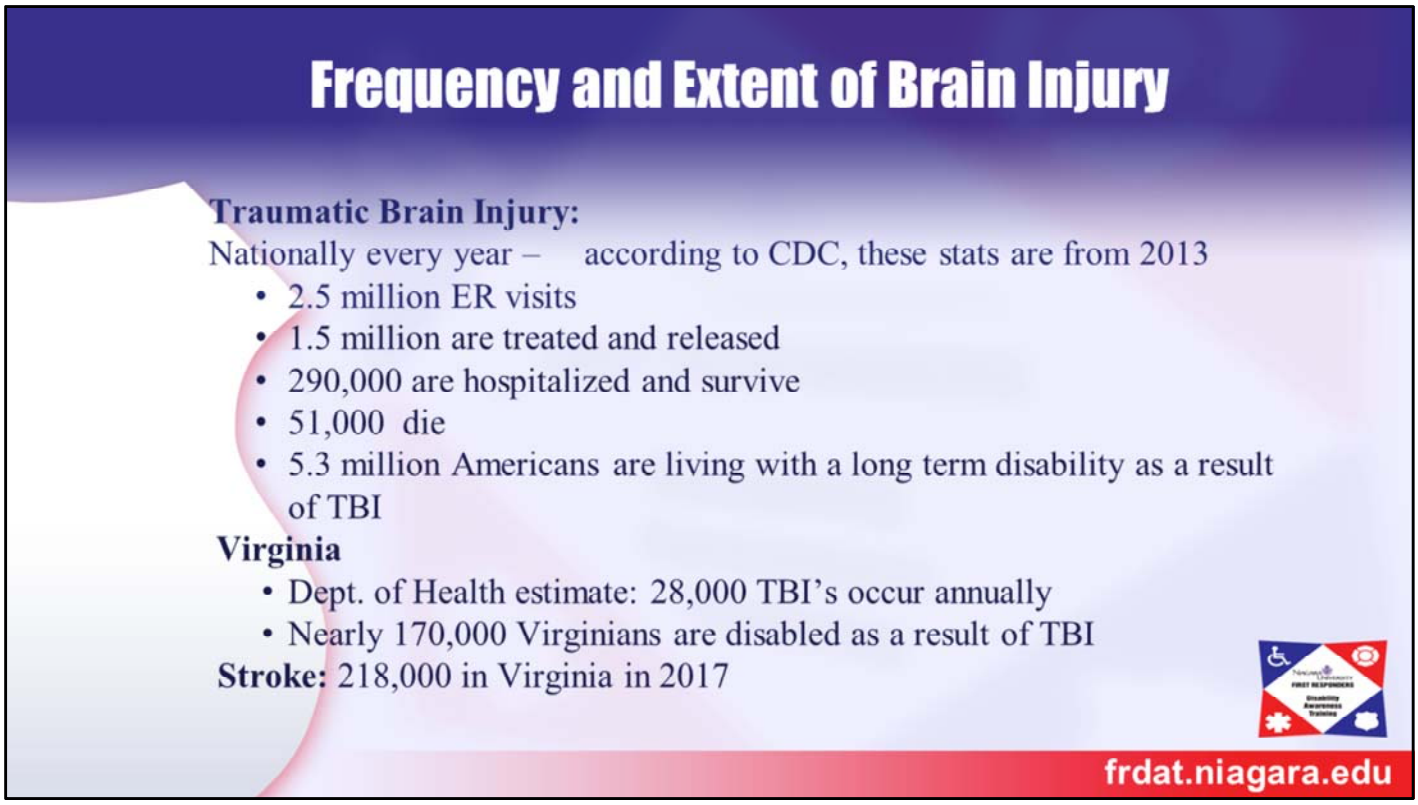
10. BIAV-Basic Information on Brain Injury



CLICK AND READ 4 BULLETS

- Annually, 5.3M Americans sustain a Traumatic Brain Injury (TBI) resulting in 1,365,000 emergency department visits, 275,000 hospitalizations, and 52,000 deaths. Where did these stats come from? The NIH states that 1.7 million have TBI in a year.
- About 75% of TBIs that occur each year are concussions or other forms of mild traumatic brain injuries.
- According to the Denver Post, inmates in the Denver Jail High Risk Unit at the time of the article had a TBI and the unit also has, in general, a stunning 54 – 70% rate of TBI, ***much*** higher than the general public rate of (estimated) 6 to 8.5%
- This information was the result of a study on TBI done by the University of Denver neurology dept.

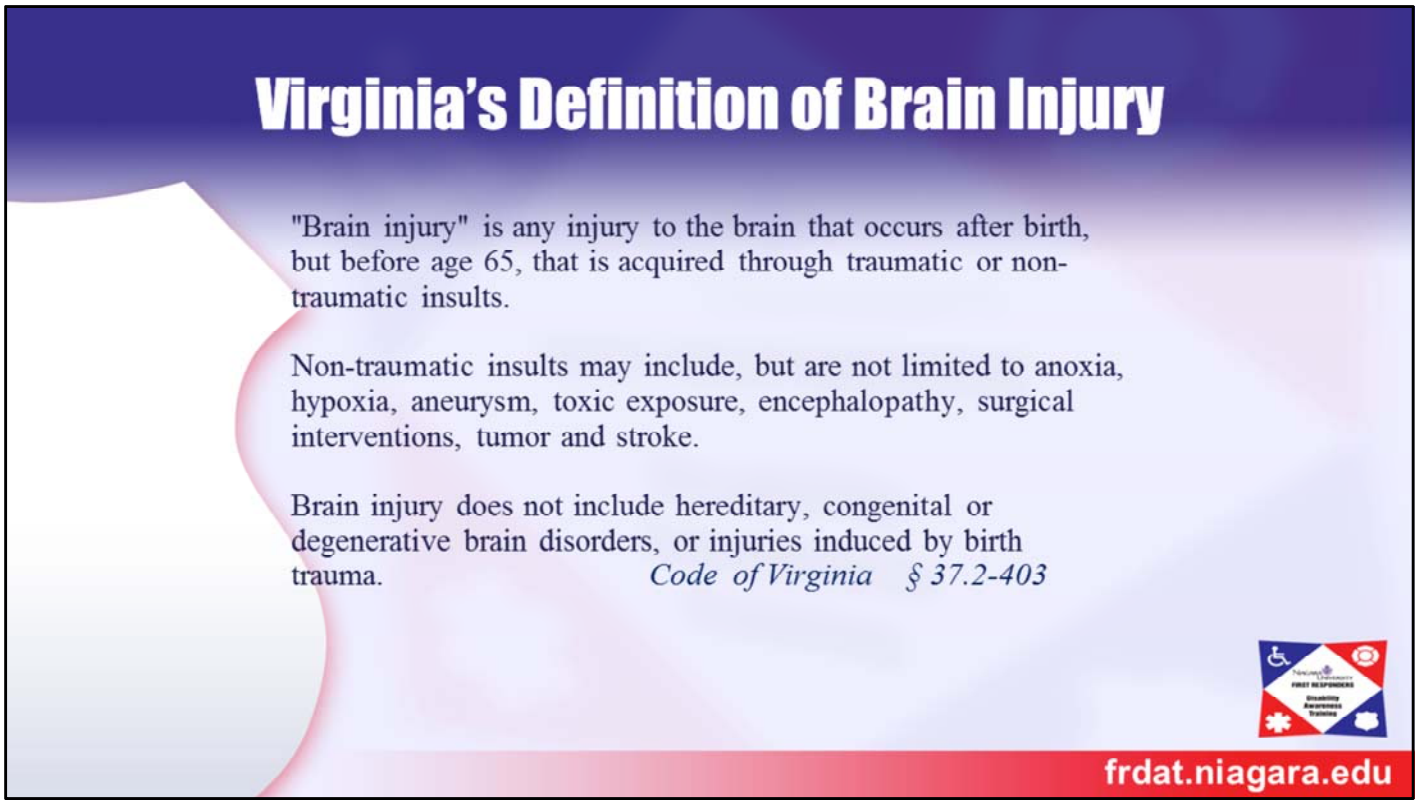
- What began as a one-time university service learning project has grown into a new therapy program spreading to jails along the Front Range (foot hills to the Rocky Mountains). Permission given to use this info by the original author of paper article based on.
- National research has found that traumatic brain injury often predates criminal activity, but it's also true that inmates, especially those who are homeless, are more likely to suffer brain trauma or lose consciousness in fights, car accidents and shootings. (There is enough information online to be able to use this without citing a specific source)
- The Virginia Department of Health has a page in the Virginia.gov site dedicated to TBI (http://www.vdh.virginia.gov/traumatic-brain-injury/resources/)



CLICK AND READ HEADING AND 8 BULLETS

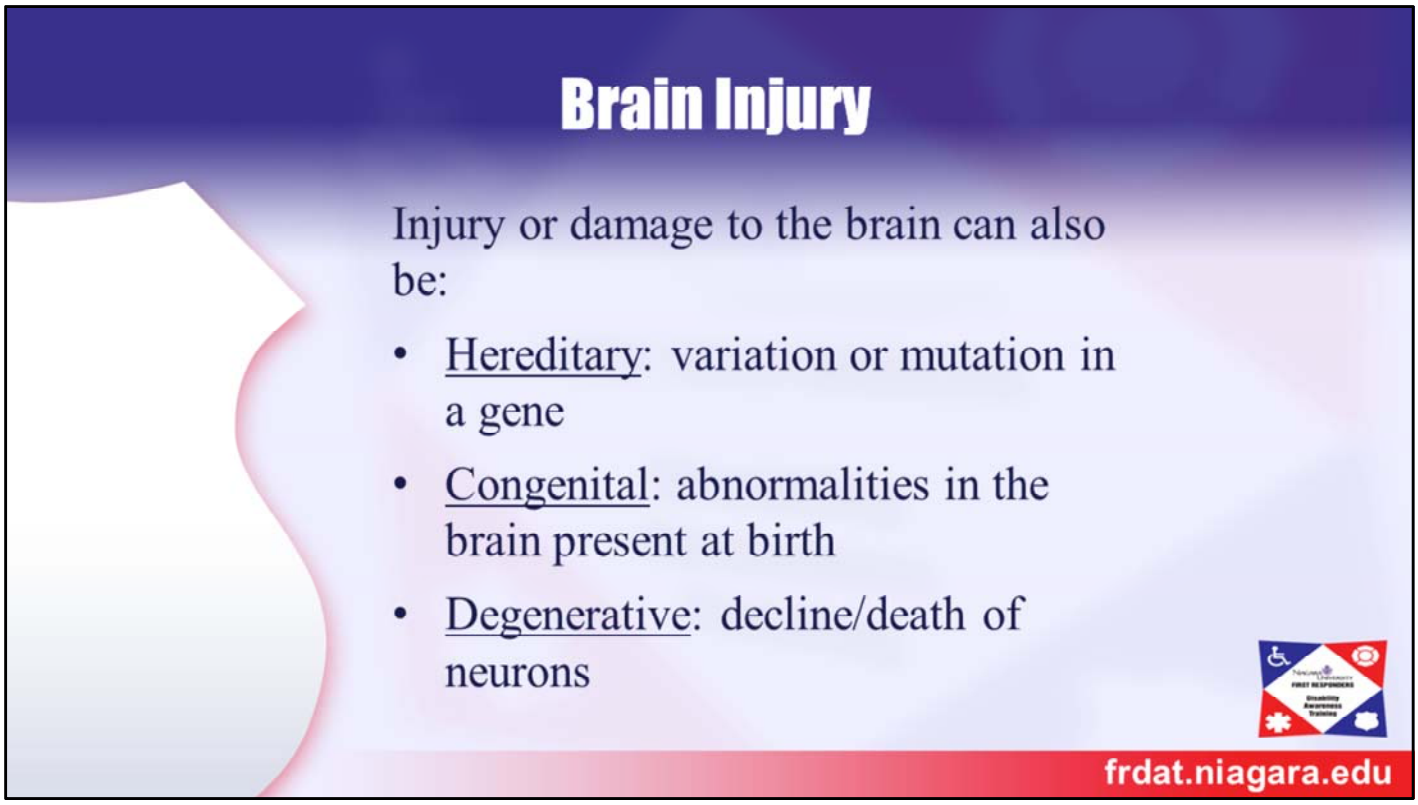
- 5.3 million is just those who are obviously disabled; that number does not include the millions who sustain a brain injury who are not disabled.
- Strokes affect 800,000 people per year, according to Dr. Jeremy Heit (a Fellow at Stanford University) and of those, 140,000 will die. He also states strokes are the leading cause of disability in the country.** This has a cost of $73,000,000,000/yr.
- Brain injury is public health issue; the numbers are high, and likely underreported.

The 28,000 estimate is based on a TBI surveillance system, and includes mild injuries.



CLICK AND READ THREE PARAGRAPHS

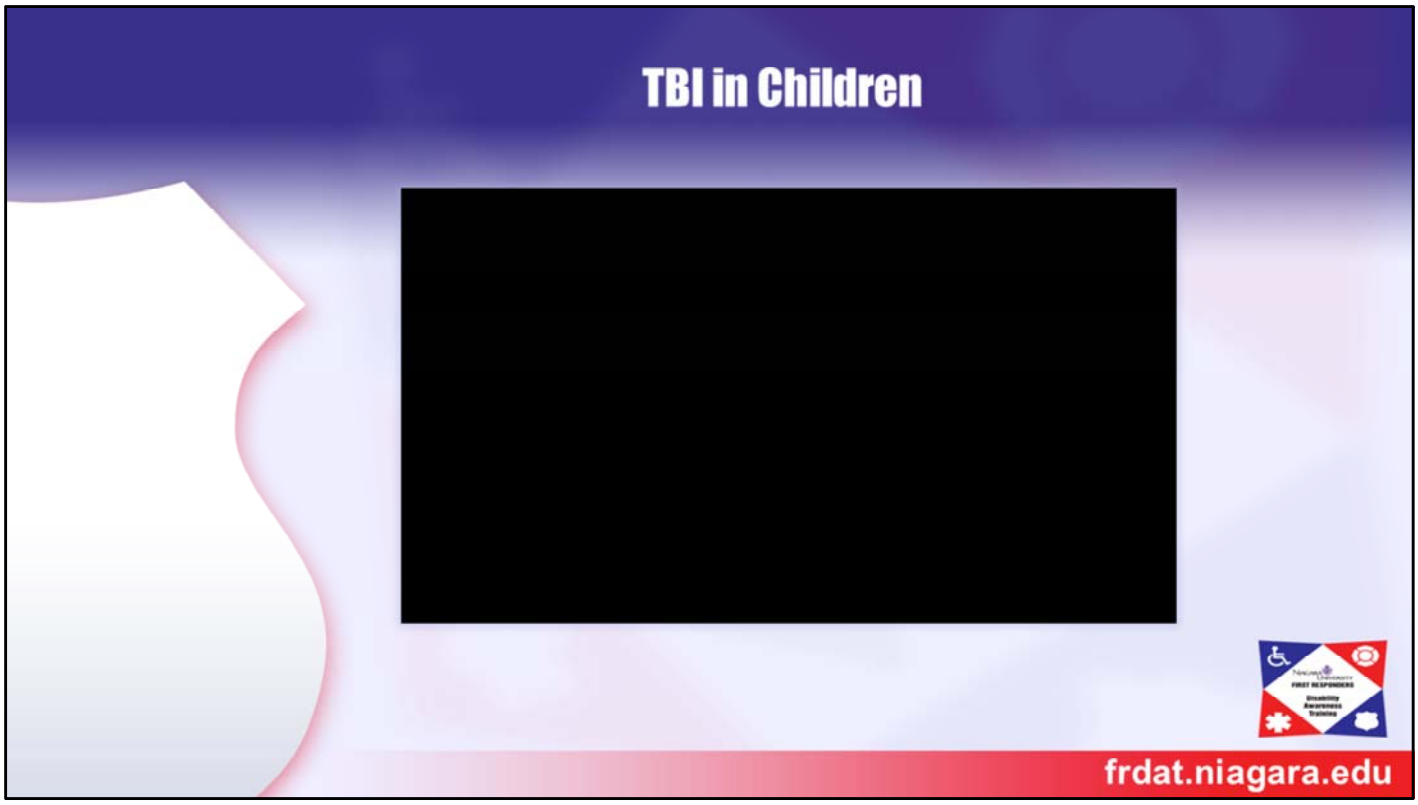
- Pursuant to §37.2-405, DBHDS licenses public and private providers of community services throughout Virginia that provide treatment, training, support and habilitation to individuals receiving services in residential facilities for individuals with brain injuries



CLICK AND READ THREE BULLETS

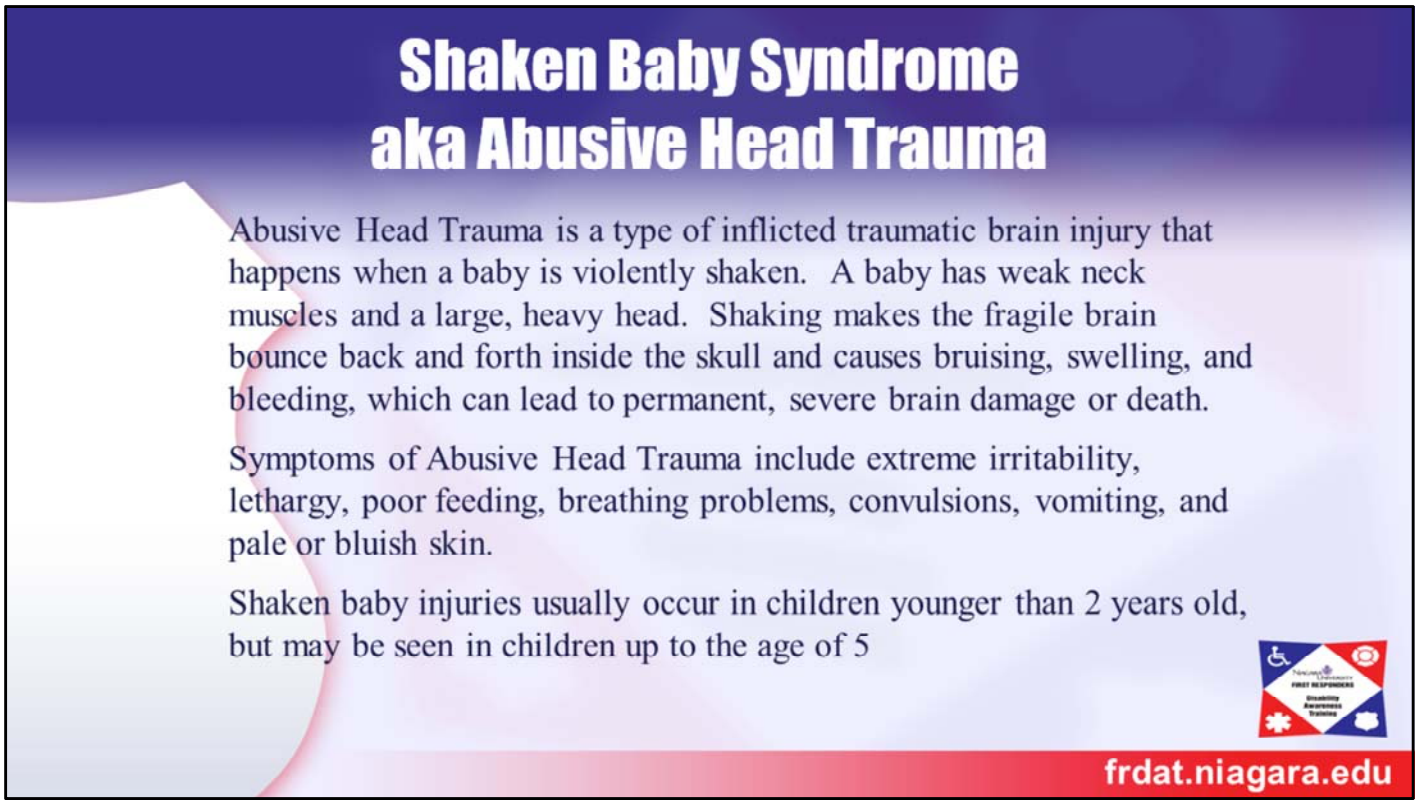
Brain injury or damage can also come from hereditary, congenital, degenerative, and acquired sources:

- Hereditary such as luekodystrophies
- Congenital such as Cerebral Palsy
- Degenerative such as Alzheimer's disease



PLAY VIDEO
Signs & symptoms in children

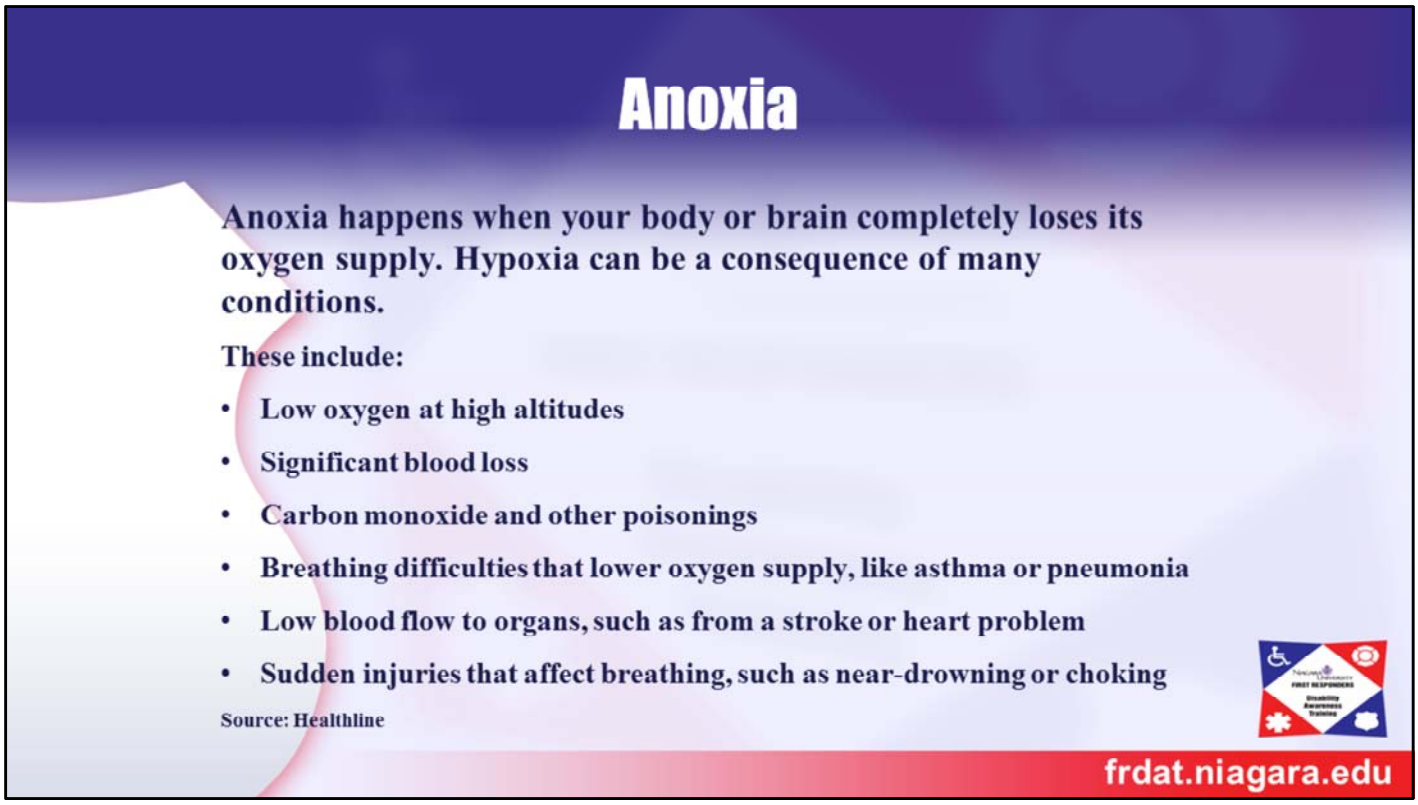
- Change in eating or nursing habits
- Unusual or easy irritability
- Persistent crying and inability to be consoled
- Change in ability to pay attention
- Change in sleep habits
- Seizures
- Sad or depressed mood
- Drowsiness
- Loss of interest in favorite toys or activities



- The characteristic injuries of Abusive Head Trauma are subdural hemorrhages (bleeding in the brain), retinal hemorrhages (bleeding in the retina), damage to the spinal cord and neck, and fractures of the ribs and bones.
- These injuries may not be immediately noticeable.

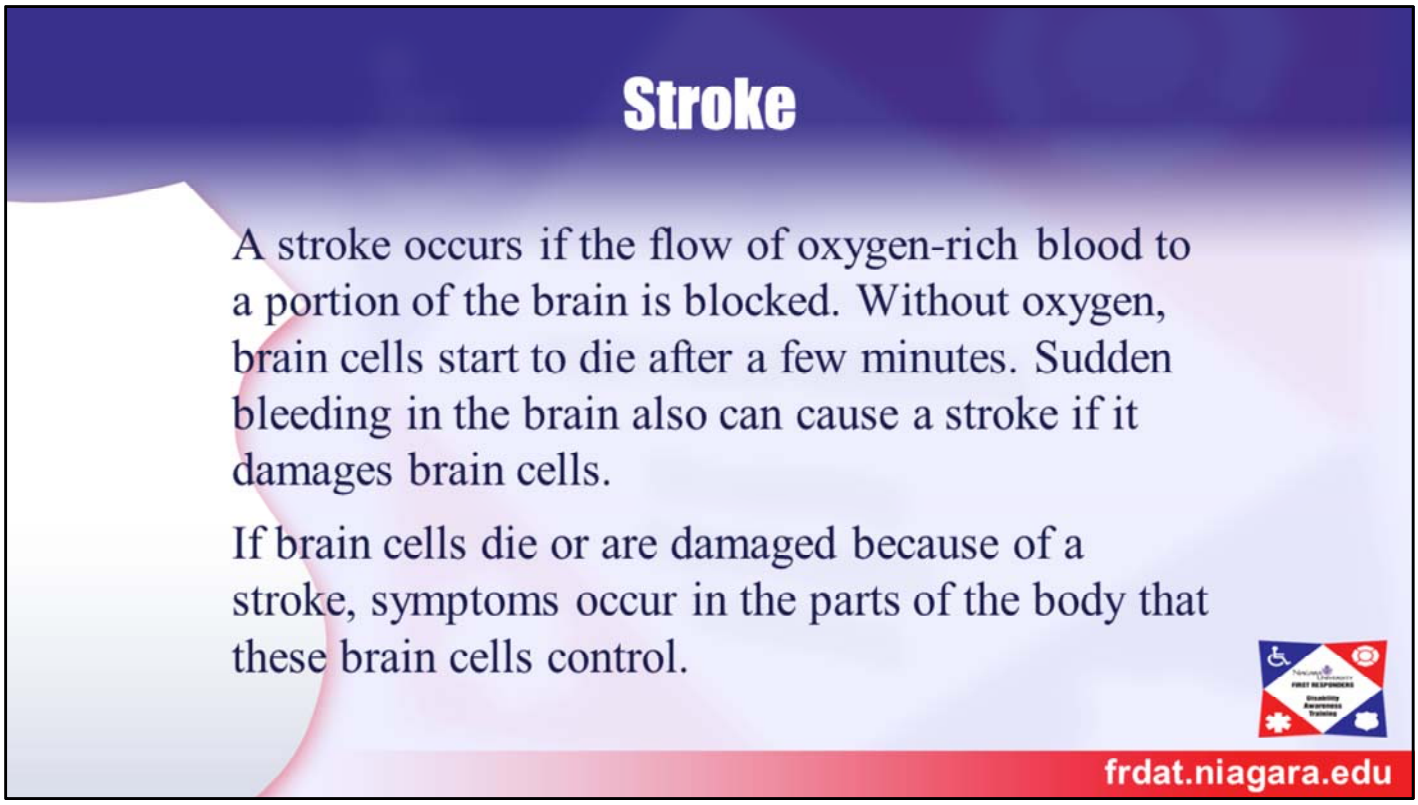
CLICK AND READ 7 BULLETS

- Acquired Brain Injury is one of the seven injuries listed here, to include TBI. Again, the individual was not born with it but acquired it through one of these seven ways.
- Characteristics will be the same or very similar for each condition, which you will see in upcoming pages.



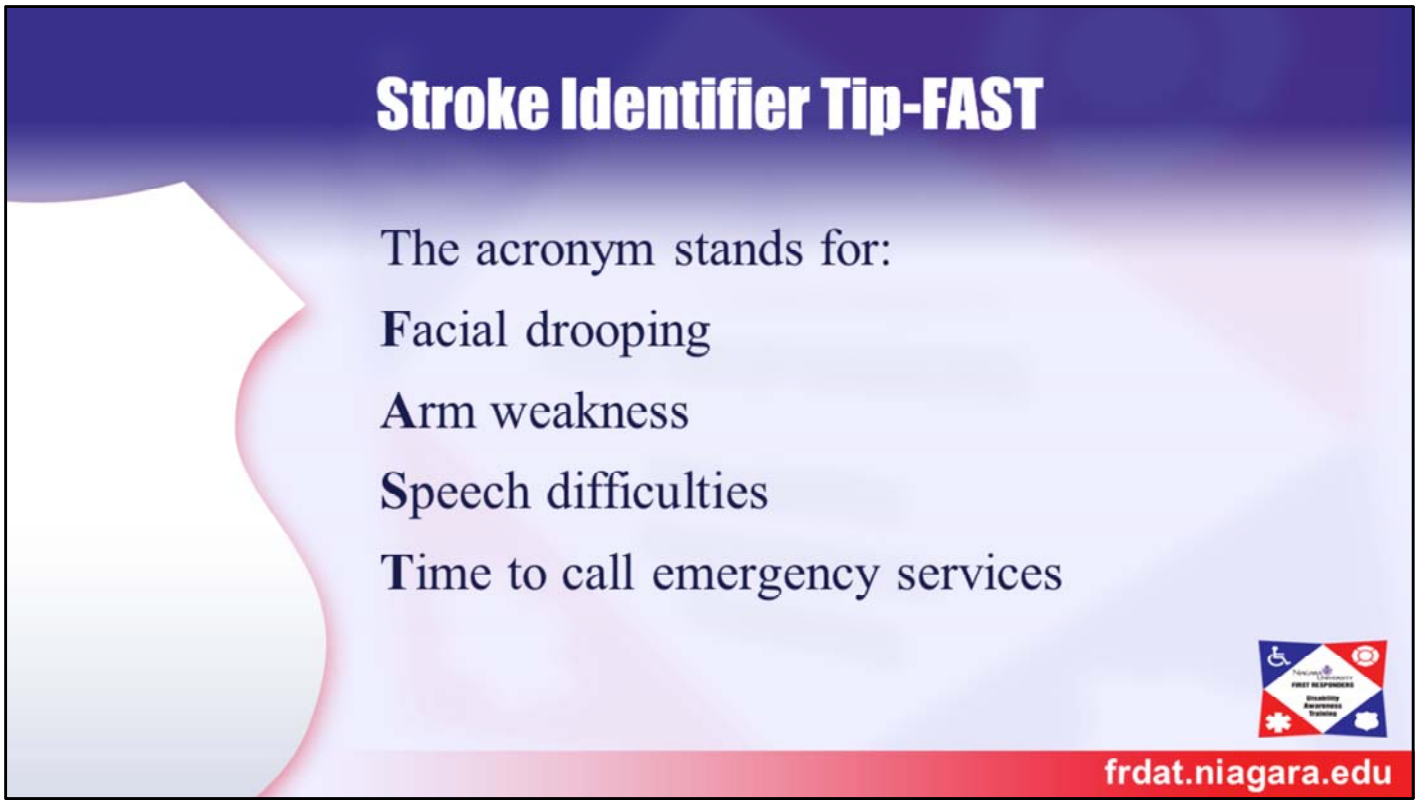
- Anoxia is usually a result of hypoxia. This means that a part of your body doesn't have enough oxygen.

- When your body is harmed by a lack of oxygen, it's called a hypoxic-anoxic injury.

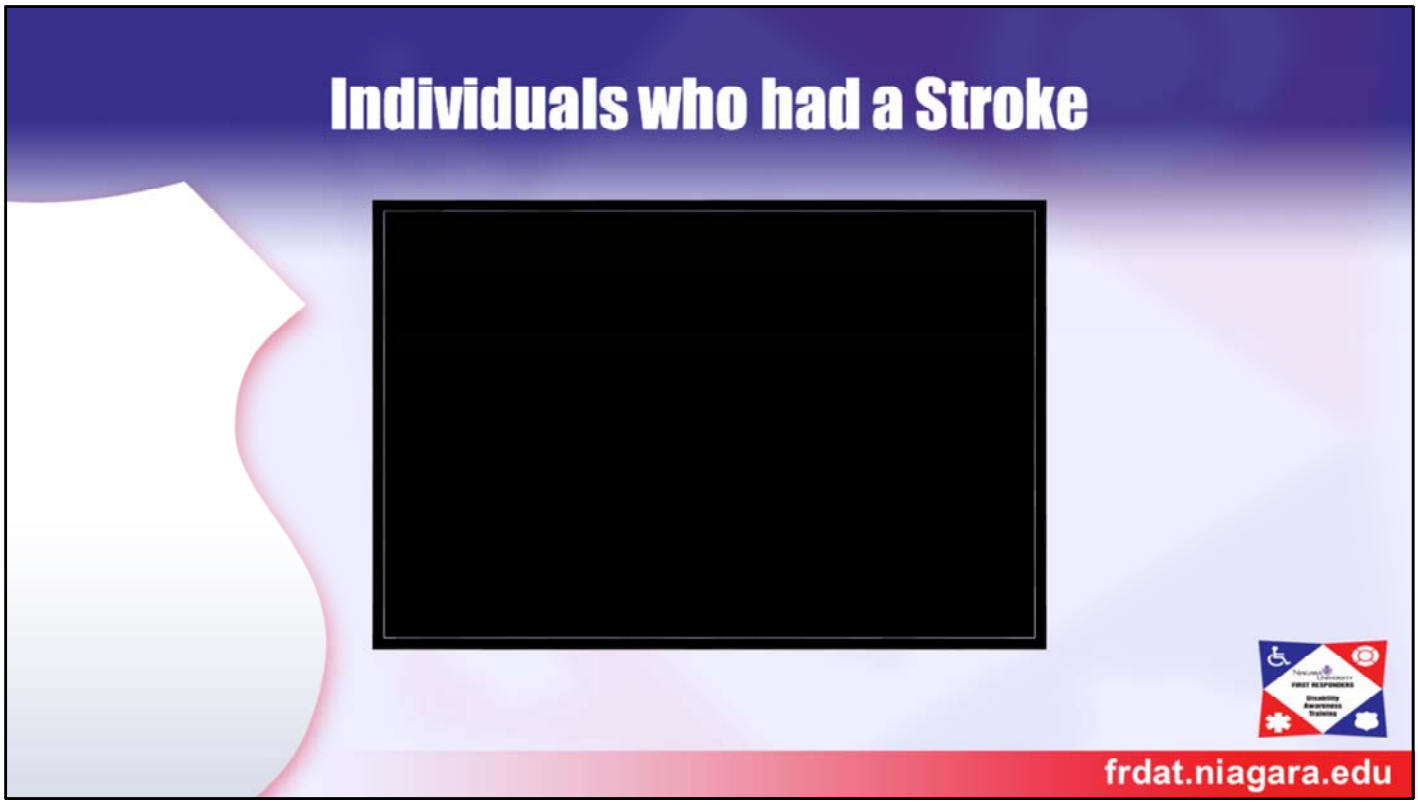


- A stroke is a serious medical condition that requires emergency care.
- A stroke can cause lasting brain damage, long-term disability, or even death.
- The time it takes to recover from a stroke varies—it can take weeks, months, or even years.
- Some people recover fully, while others have long-term or lifelong disabilities.
- Ongoing care, rehabilitation, and emotional support can help you recover and may even help prevent another stroke
- Strokes by a blood clot are called ischemic attacks.
- There is another type of stroke caused by hemorrhage.

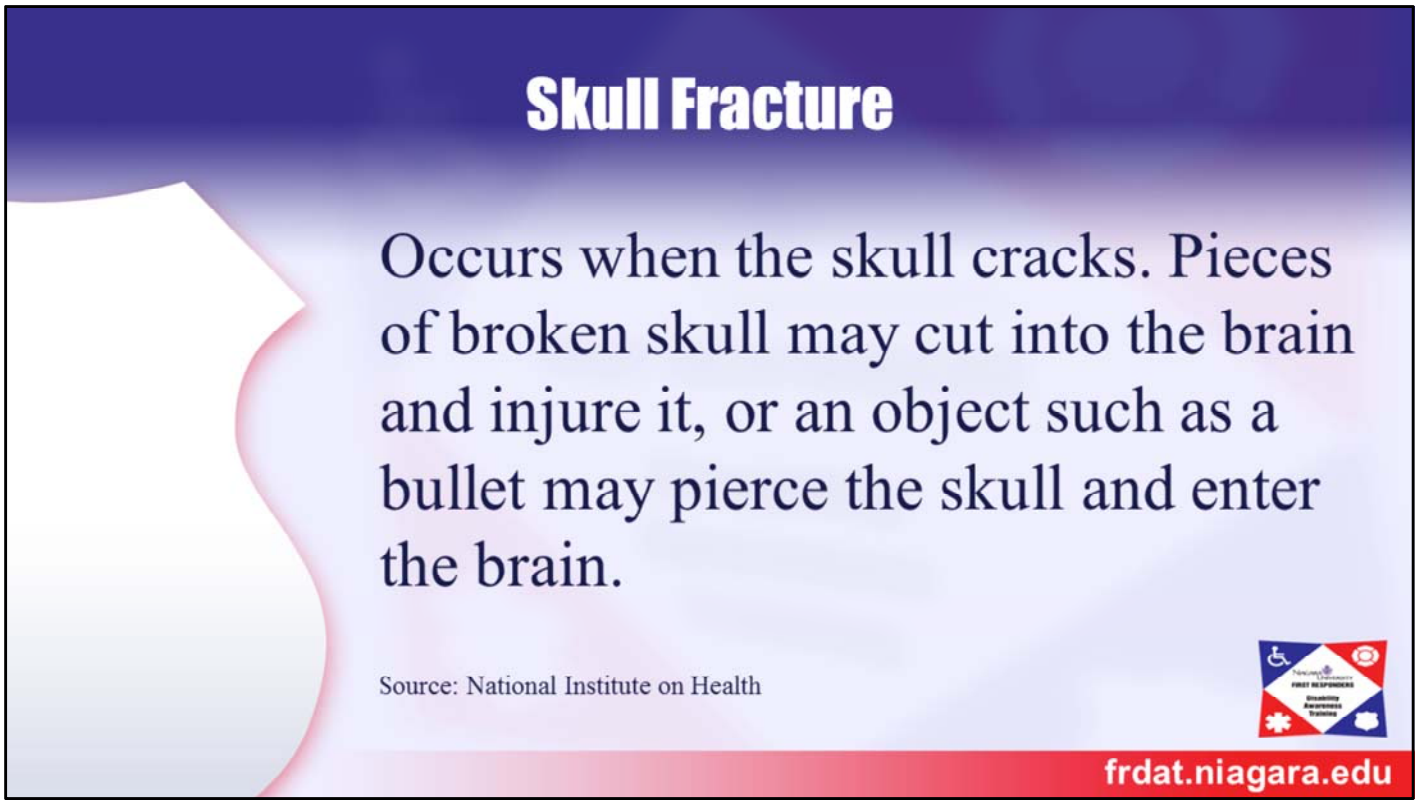
Know the symptoms. Quick response will save lives and possibly limit long term effects

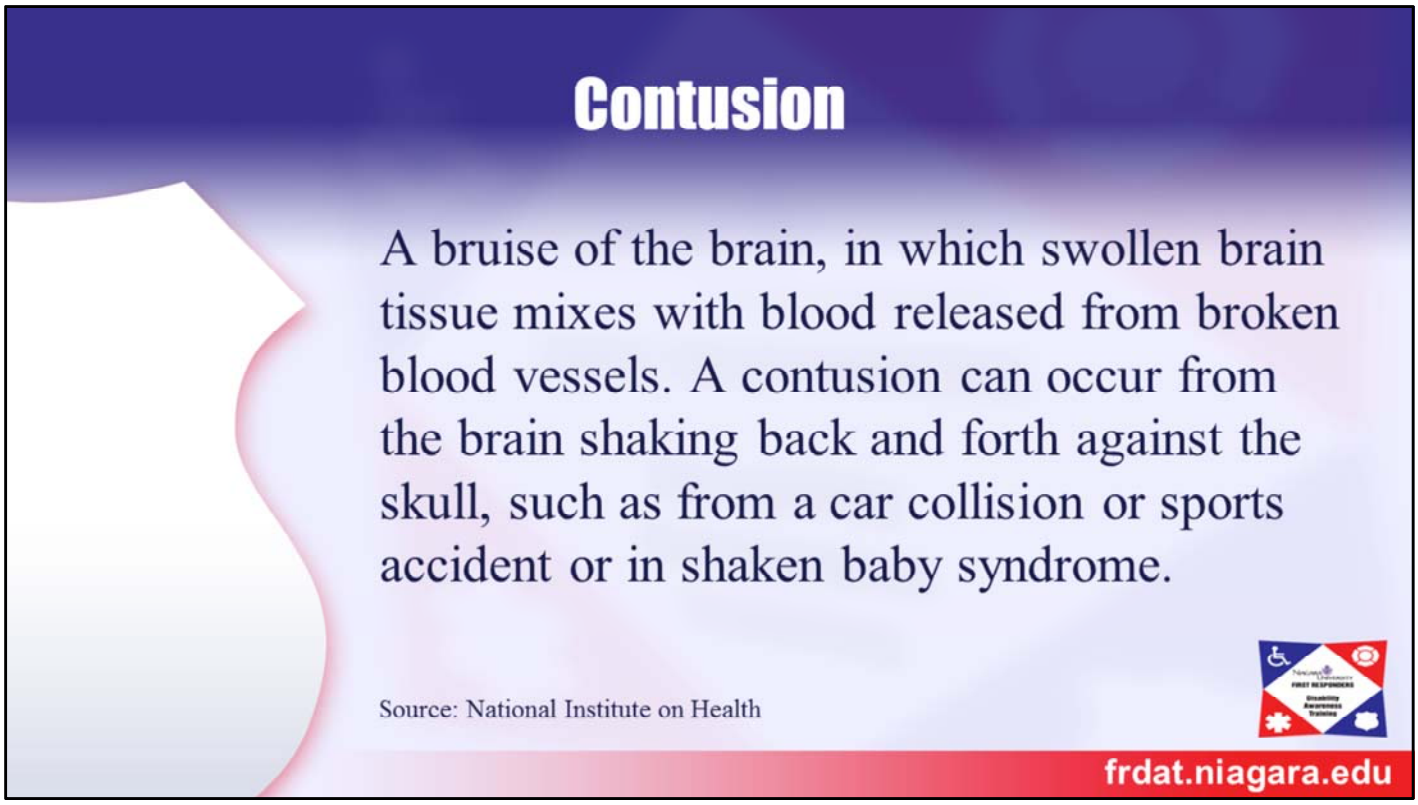


FAST is an acronym used as a mnemonic to help detect and enhance responsiveness to the needs of a person having a **stroke**

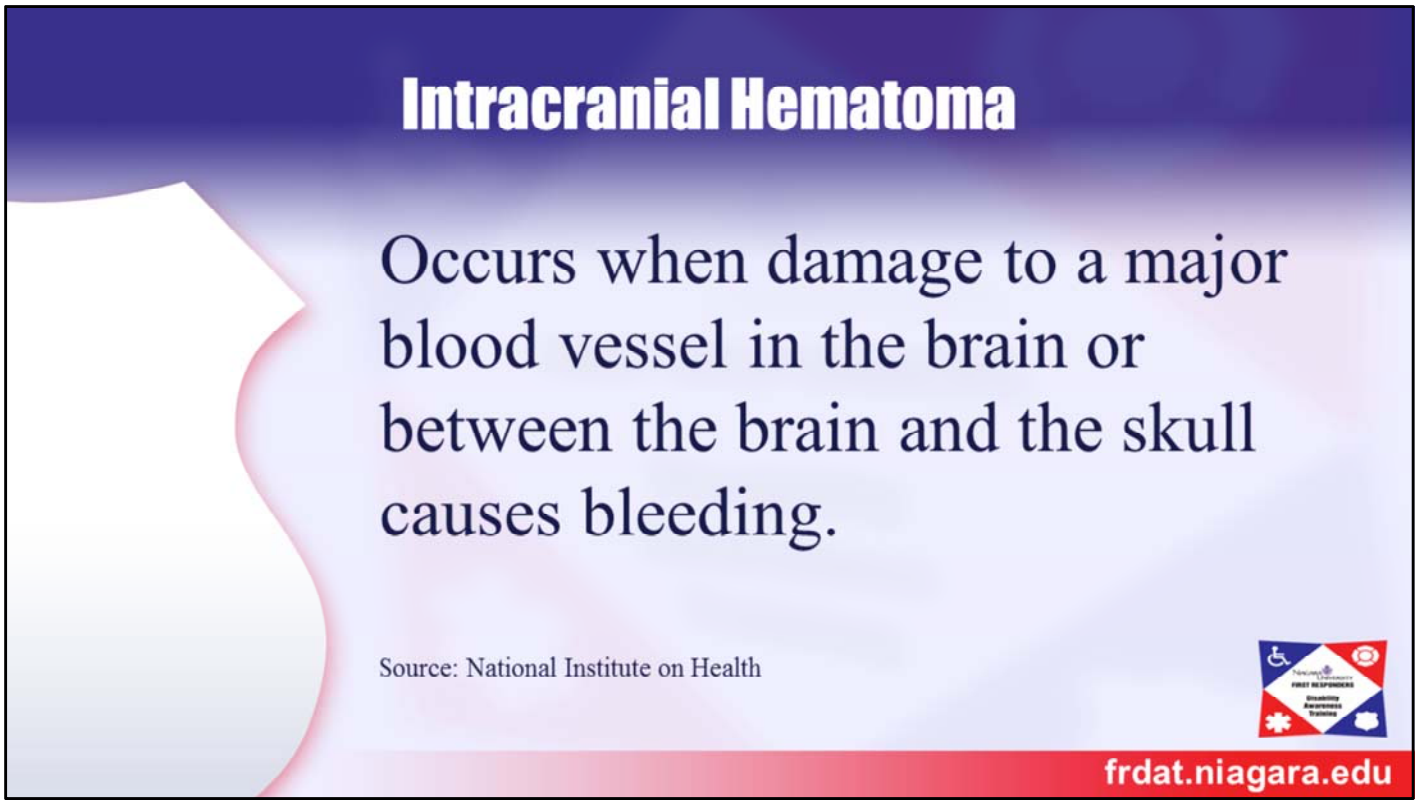


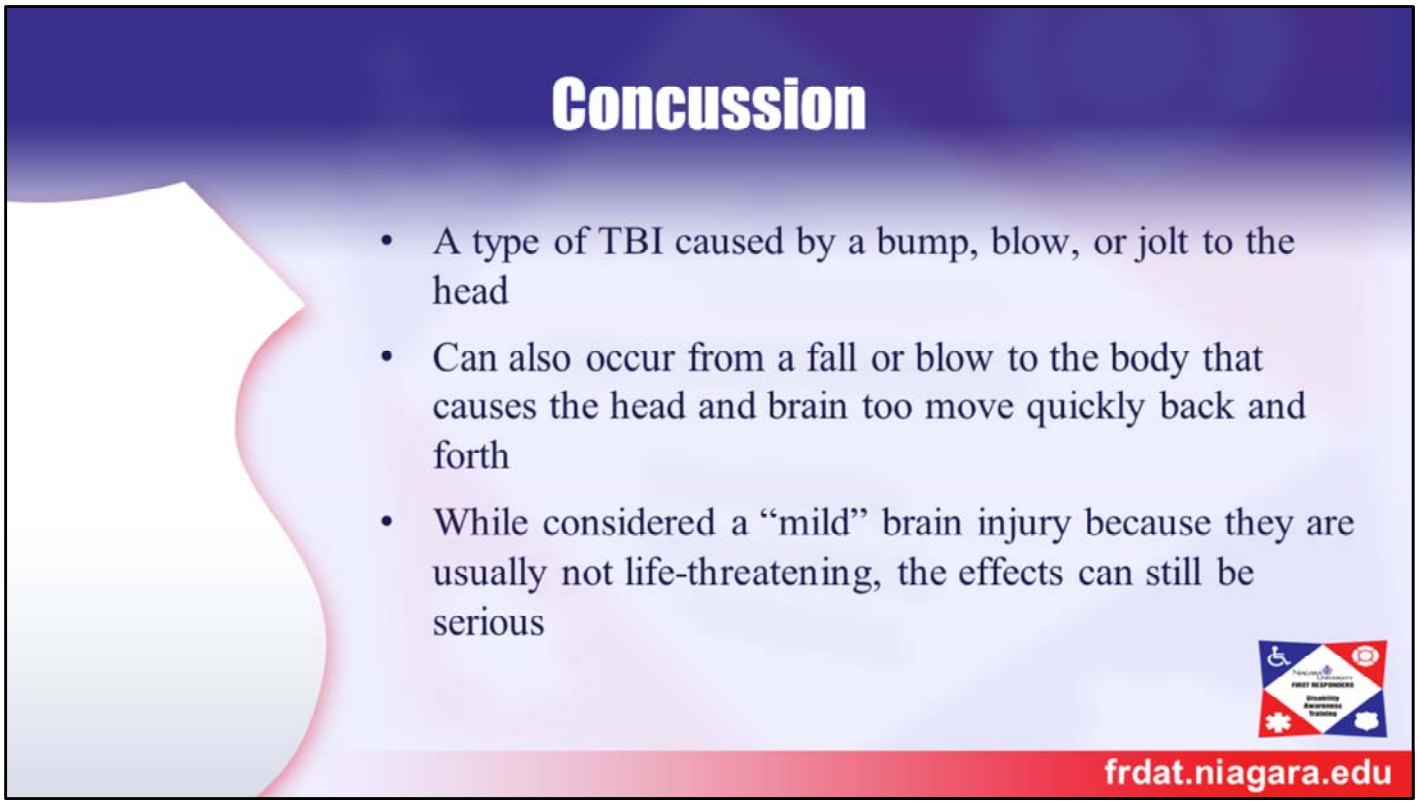
- The emphasis in this video is the speech disability that all three men inherited with their stroke
- Note they all are receiving language (receptive) but they can not express my verbalizing since their stroke
- Louis' emotions are evident.


Skull Fracture
Occurs when the skull cracks. Pieces of broken skull may cut into the brain and injure it, or an object such as a bullet may pierce the skull and enter the brain.
Source: National Institute on Health
frdat.niagara.edu

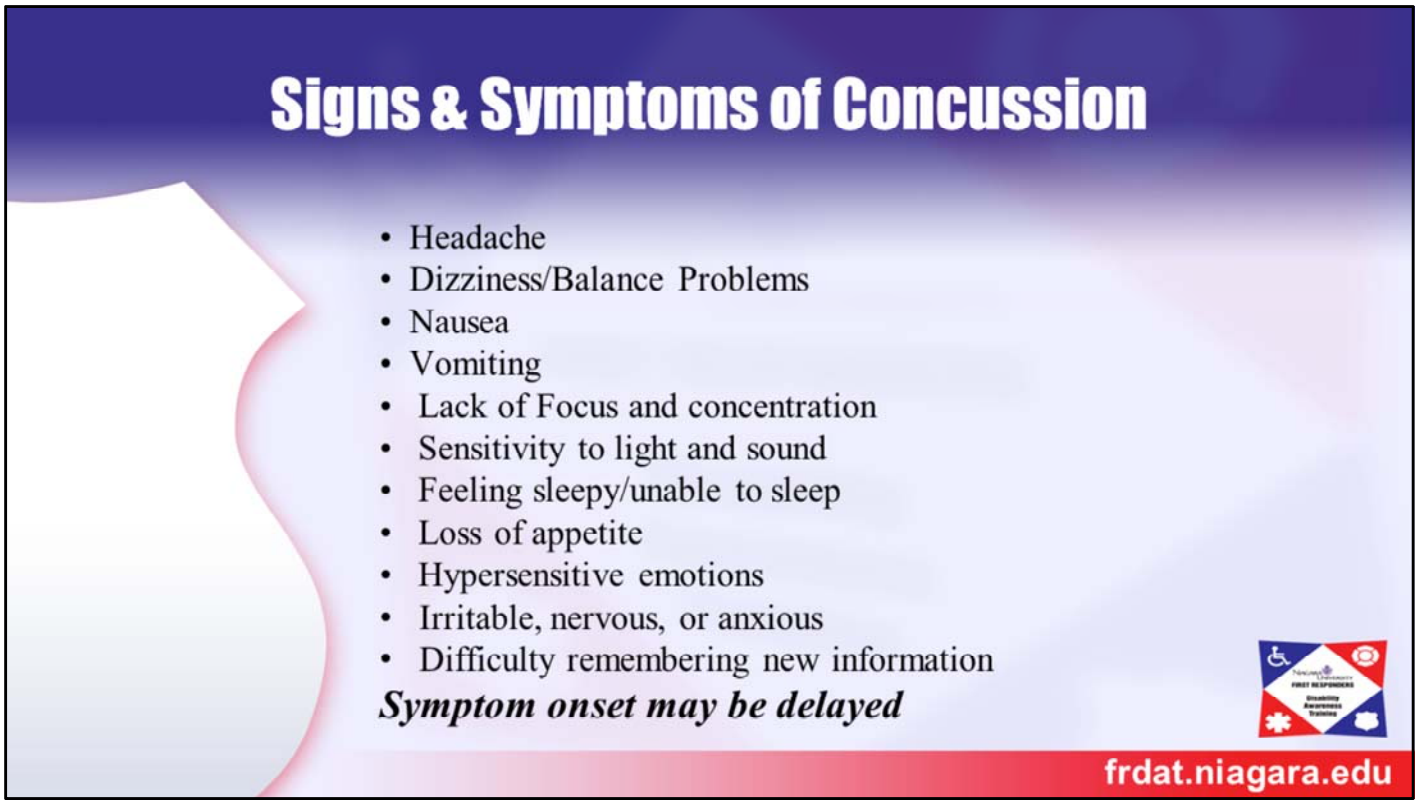


You will see this in the videos explaining how brain injuries occur

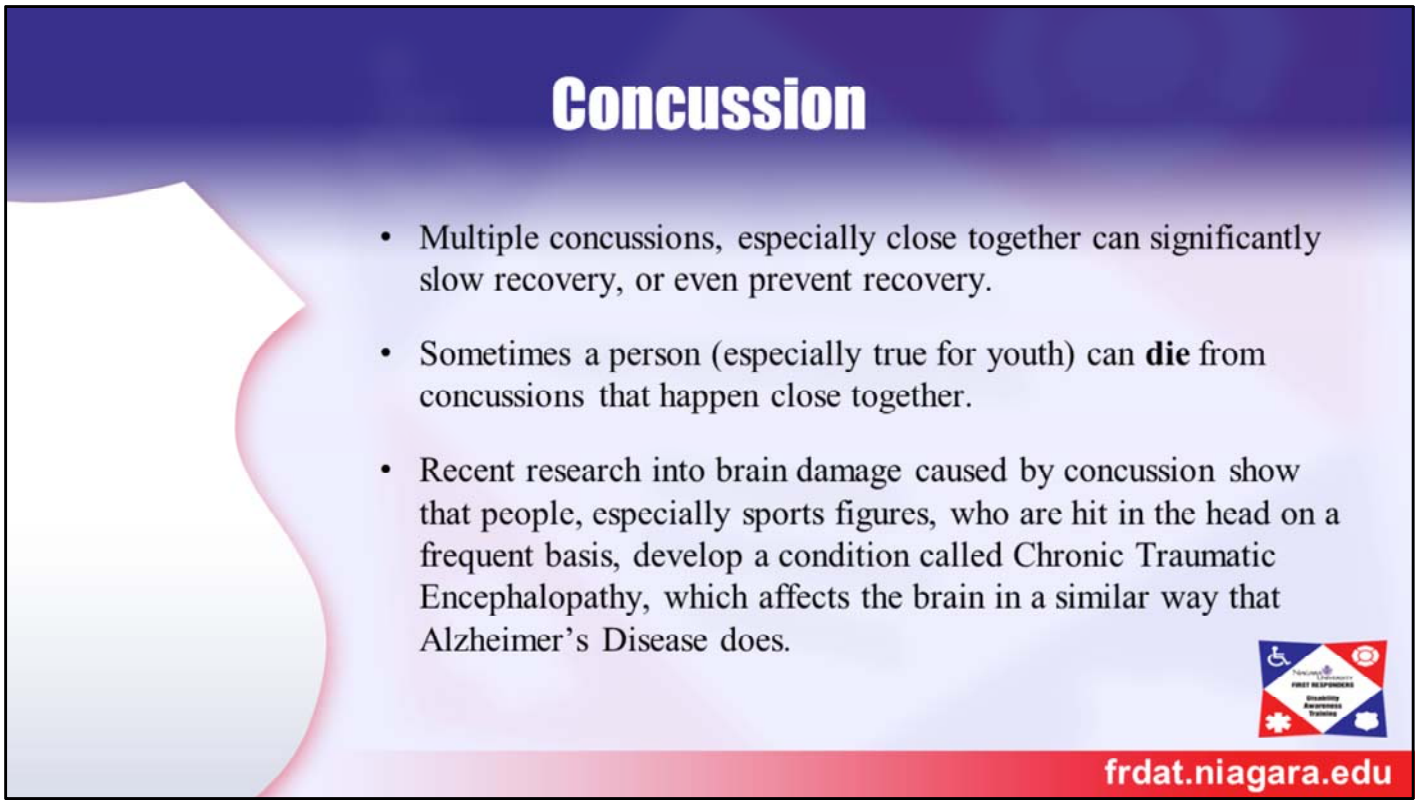

Intracranial Hematoma
Occurs when damage to a major blood vessel in the brain or between the brain and the skull causes bleeding.
Source: National Institute on Health
frdat.niagara.edu



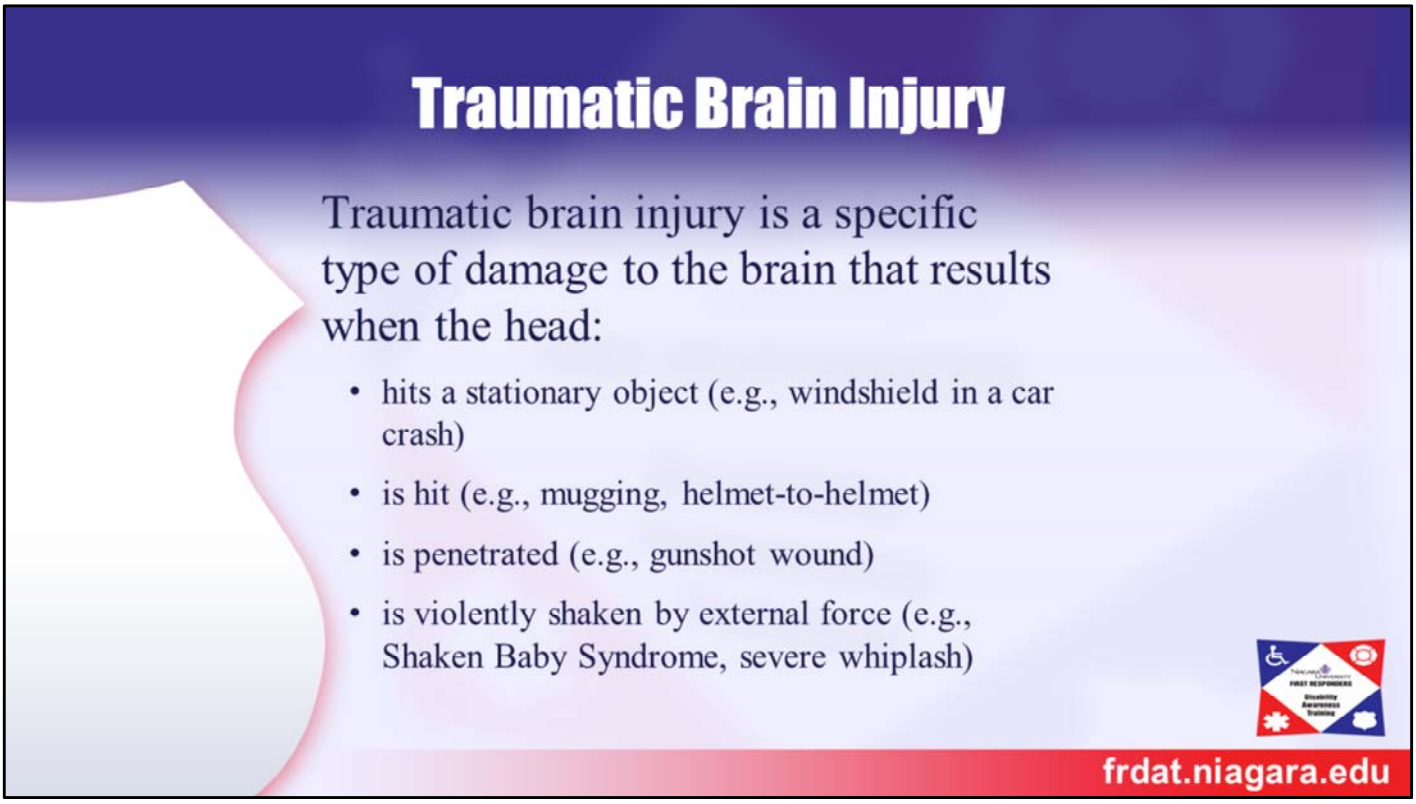
- Most people recover quickly and fully.
- However, symptoms can last for days, weeks, or longer
- Those that have had one in the past, may find it longer to recover from another one.



- Anyone exhibiting these symptoms should see a doctor immediately
- 75% of TBIs are concussions
- Rest is very important as it helps to heal the brain
- Trying to work through it, ignore it, or “tough it out” often makes symptoms worse
- **REFERENCE HANDOUTS**



- Recovery from a concussion is achievable, however, even two concussions enhances the risk of a more serious TBI

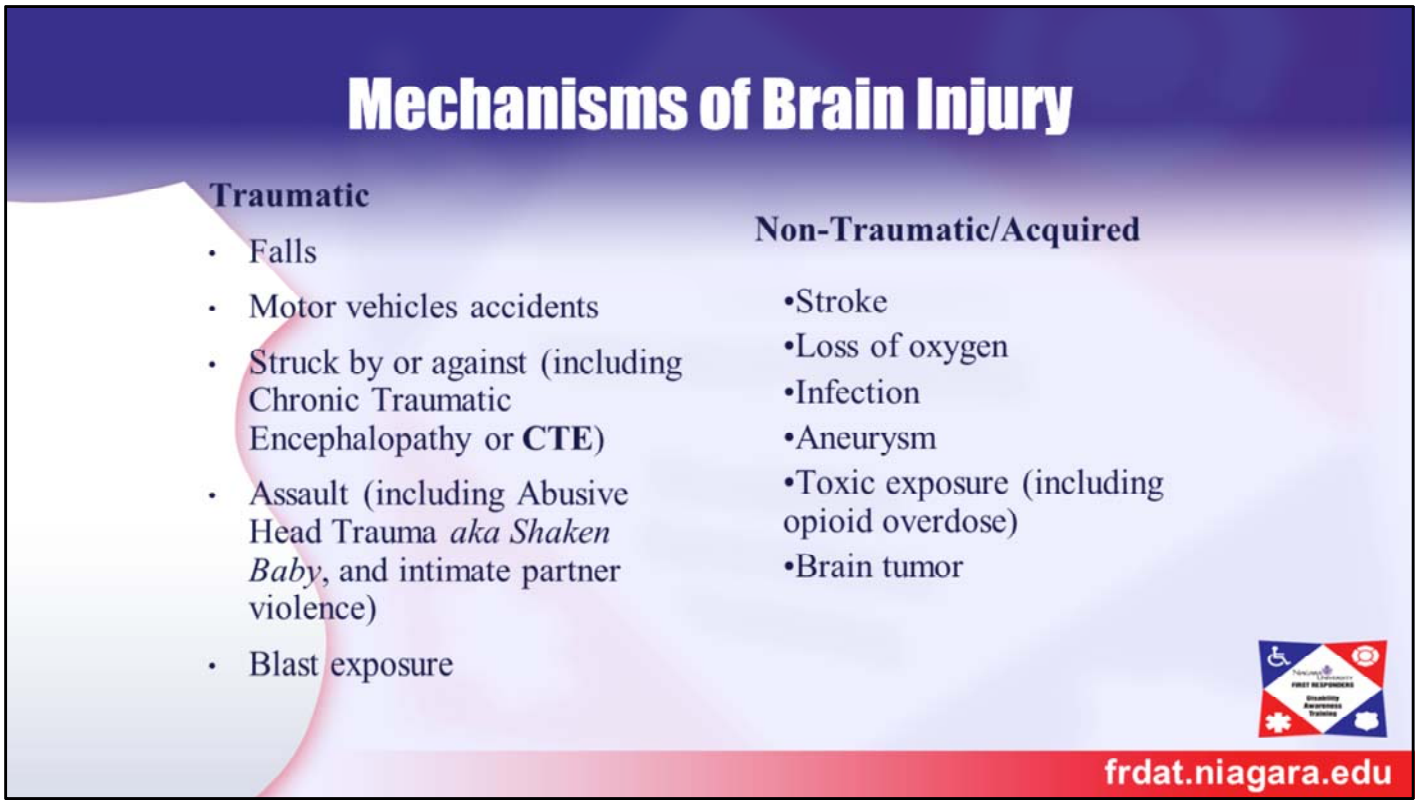


CLICK AND READ 4 BULLETS

Again, TBI is an acquired brain injury caused by some action or activity in the course of someone's life.

- Skull fractures: when skull is damaged hard enough to actually break it. Pieces of bone may cut into the brain and cause injury or an object, such as a bullet, may go through the skull and go into the brain, injuring it
- Contusions: basically bruising of the brain. Swollen brain tissue mixes with blood from broken veins/arteries. These can be the result of such diverse things as a car accident or "shaken baby syndrome."
- Intracranial hematoma (pronounced in-truh-cray-nee-uhl hee-ma-toh-mah). Also a bruising of the brain, with blood clotting and potential swelling of the brain against the skull

- TBI also occurs from coup-contracoup injury, as with a car accident in which the head does not get or is not hit by anything

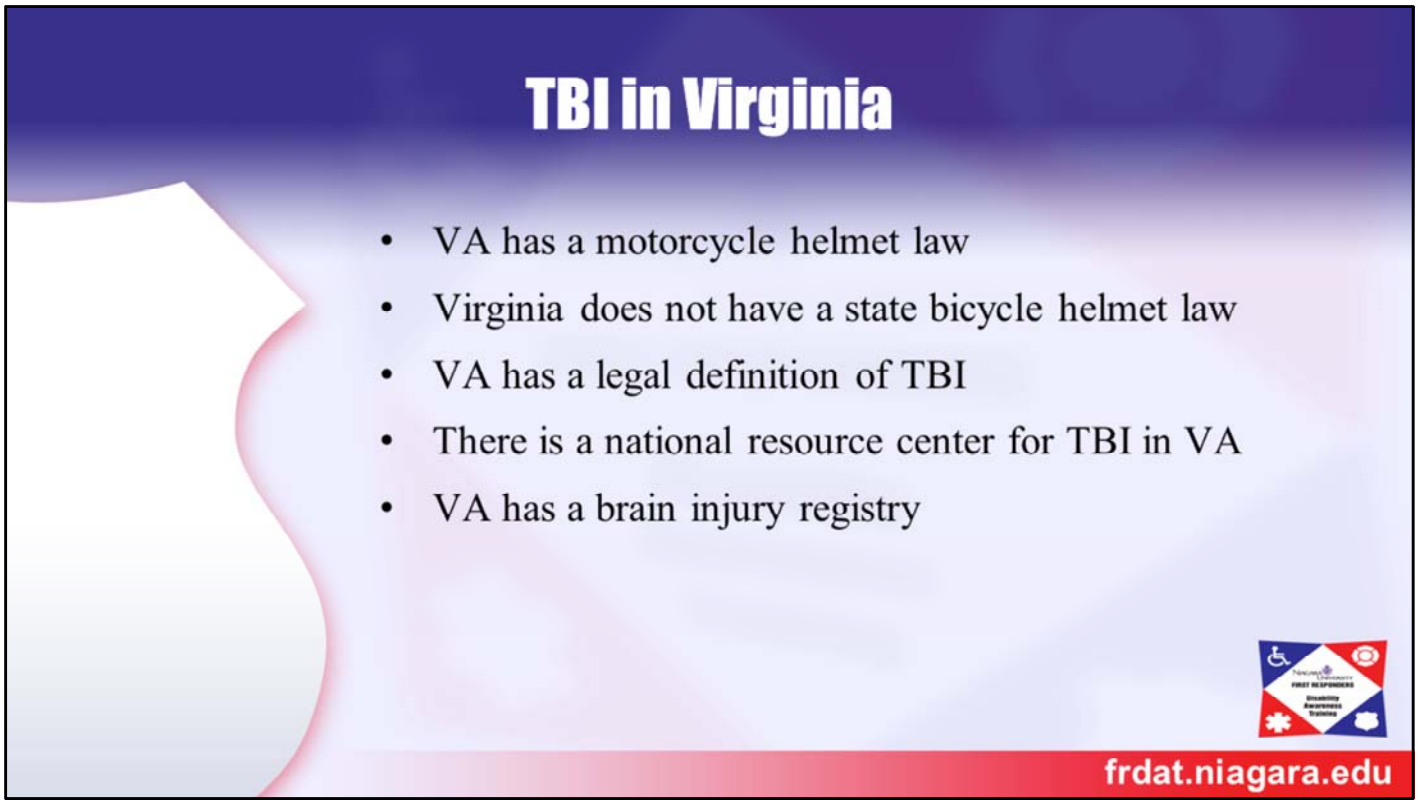


CLICK AND READ 11 BULLETS

- Falls are the #1 cause of brain injury nationally and in Virginia. 1.3 million, or almost half of this type of injury annually, are caused by falls.
- Being struck by or against an object was the second leading cause of TBI, accounting for about 15% of TBI-related ED visits, hospitalizations, and deaths in the United States in 2013. www.cdc.gov/traumaticbraininjury/get_the_facts.html
- CTE (Chronic Traumatic En-sef-a-lop-uth-ee) is the diagnosis that many ex-football players have been given; one concussion is not going to give someone CTE or dementia; in CTE, the cause is likely a high frequency of hits.
- In an opioid overdose, someone who ends up with a brain injury is likely to have experienced some loss of oxygen.
- An aneurism (An-yer-iz-um) is when an artery becomes weak

and bulges. This can burst, causing brain damage and/or death.

- 90% of brain aneurysms are caused by “berry” aneurysms. This is when a cluster of bulges (look like a berry on a stalk) in an artery. When one of these bursts, the blood enters the brain, to cause damage; urgent to get to hospital!



CLICK AND READ 5 BULLETS

- Even though VA doesn't have a bicycle helmet law, Virginia Code §46.2-906.1 enables localities to pass local ordinances requiring the use of bicycle helmets by children fourteen and younger.
- To view Virginia localities with bicycle helmet ordinances and learn about other Virginia bicycle laws visit the Virginia Department of Transportation.

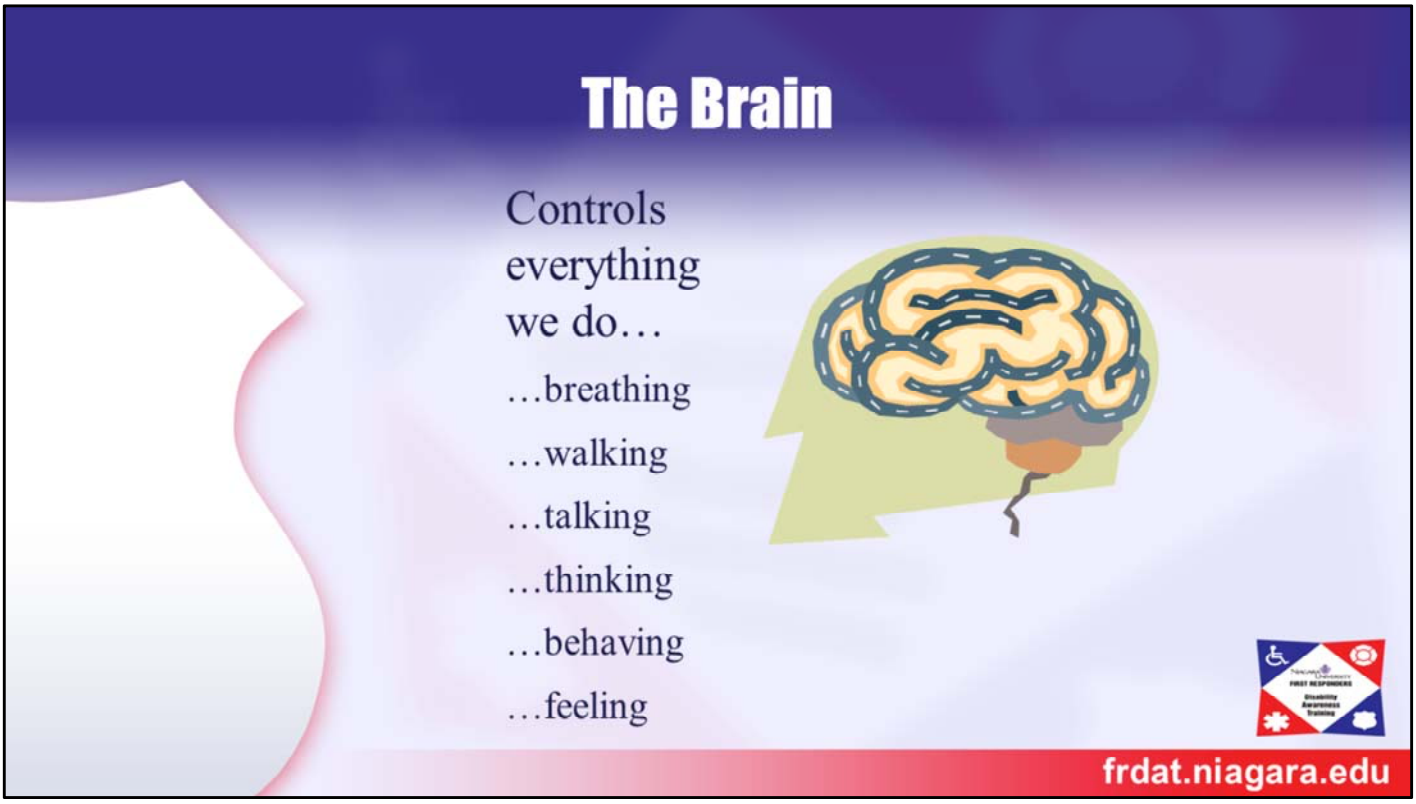
- Traumatic brain injury applies to open or closed head injuries resulting in impairments in one or more areas:
  - Cognition
  - Language
  - Memory
  - Attention
  - Reasoning

- Abstract thinking
- Judgment
- Problem-solving
- Sensory, perceptual, and motor abilities
- Psychosocial behavior
- Physical functions
- Information processing
- Speech.

➢ Traumatic brain injury does not apply to brain injuries that are congenital or degenerative, or to brain injuries induced by birth trauma. (34 CFR 300.8(c)(12))

➢ The National Resource Center for Traumatic Brain Injury (NRCTBI) http://www.tbinrc.com/ is located at Virginia Commonwealth University

➢ Virginia is one of the few states which operates a brain injury registry to which all hospitals in the Commonwealth are required by law to report.

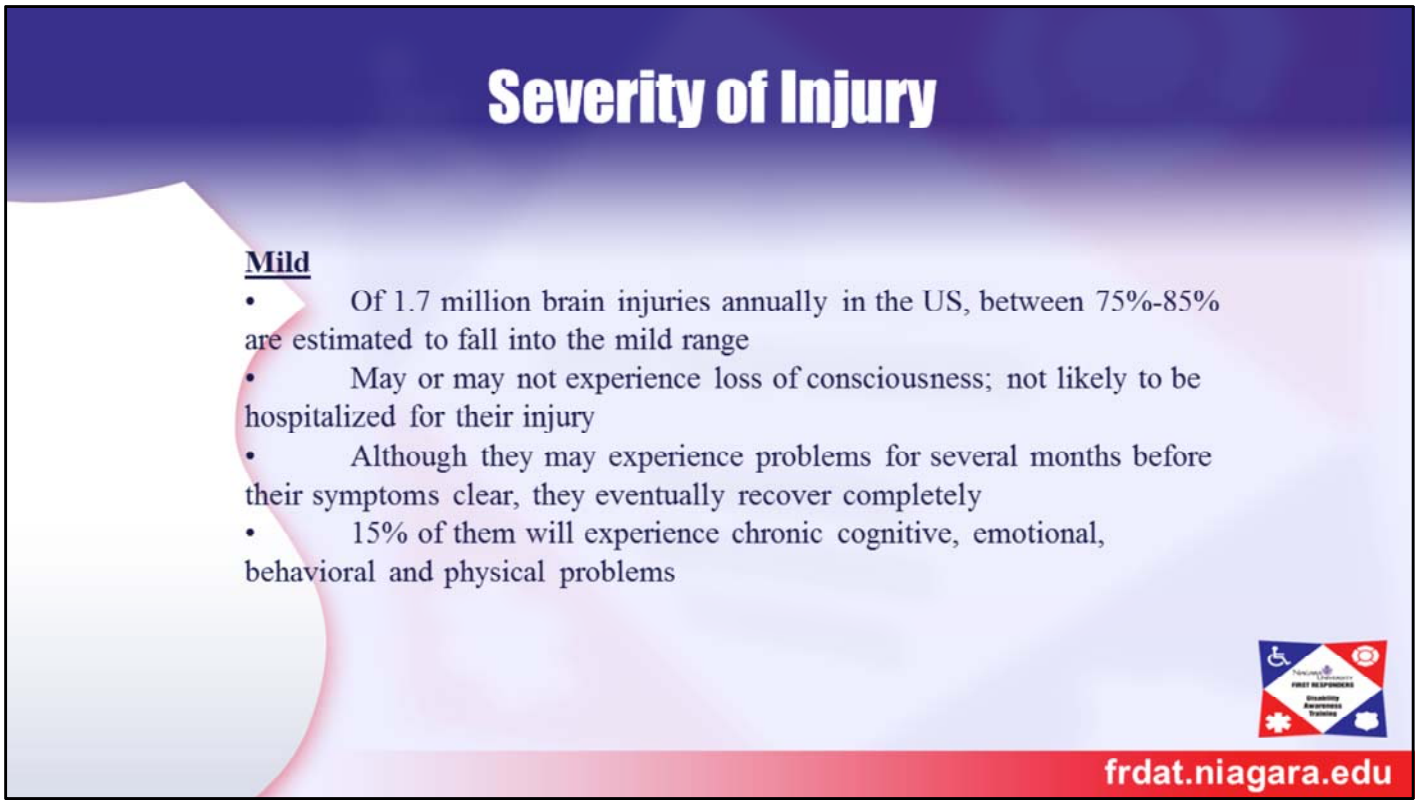


CLICK AND READ 7 POINTS

This will lead into the many different ways brain injury affects a person.

CLICK AND READ SLIDE

- You need to try this out loud (give them a few minutes). See how hard it was. That's your brain working overtime to inhibit natural responses.
- The right side of the brain is the more creative side of the brain; it likes color. The left side of the brain is the more logical side, and it likes language.



CLICK AND READ 8 BULLETS

- People who sustain more serious injuries are more likely to receive the appropriate care; they are also more likely to be left disabled.

- Most injuries fall into the mild category, and many fully recover. For some whose injury is undiagnosed, misdiagnosed or unrecognized, cognitive and behavioral issues may be mislabeled as mental health issues; for others their challenges lead them to becoming involved with the justice system. When the frontal lobe isn't working, you can't control your impulses and you make bad decisions.

CLICK AND READ 4 BULLETS

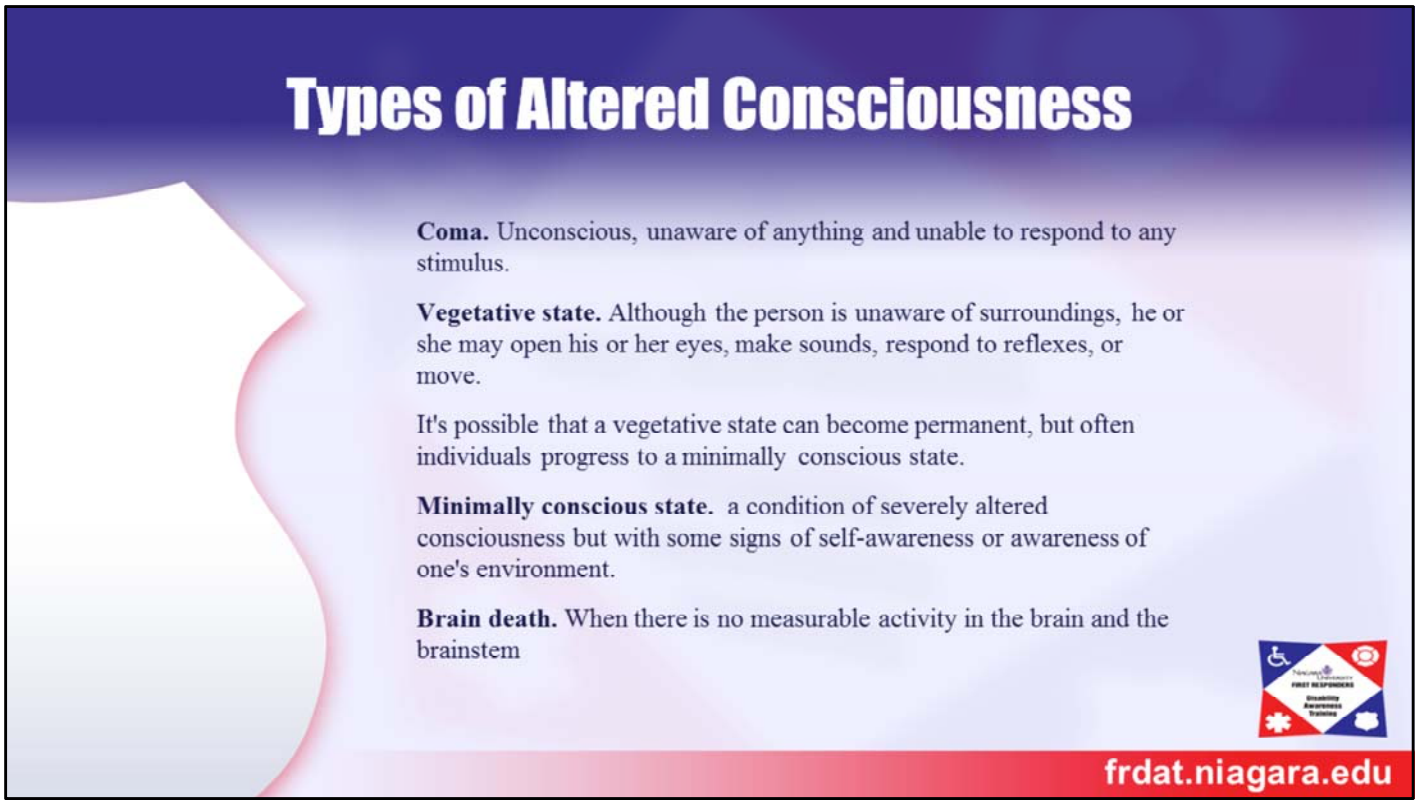
Physical symptoms

- Loss of consciousness from several minutes to hours
- Persistent headache or headache that worsens
- Repeated vomiting or nausea
- Convulsions or seizures
- Dilation of one or both pupils of the eyes
- Clear fluids draining from the nose or ears
- Inability to awaken from sleep
- Weakness or numbness in fingers and toes
- Loss of coordination

Cognitive or mental symptoms

- Profound confusion
- Agitation, combativeness or other unusual behavior
- Slurred speech

- Coma and other disorders of consciousness


Types of Altered Consciousness
Coma. Unconscious, unaware of anything and unable to respond to any stimulus.
Vegetative state. Although the person is unaware of surroundings, he or she may open his or her eyes, make sounds, respond to reflexes, or move.
It's possible that a vegetative state can become permanent, but often individuals progress to a minimally conscious state.
Minimally conscious state. a condition of severely altered consciousness but with some signs of self-awareness or awareness of one's environment.
Brain death. When there is no measurable activity in the brain and the brainstem
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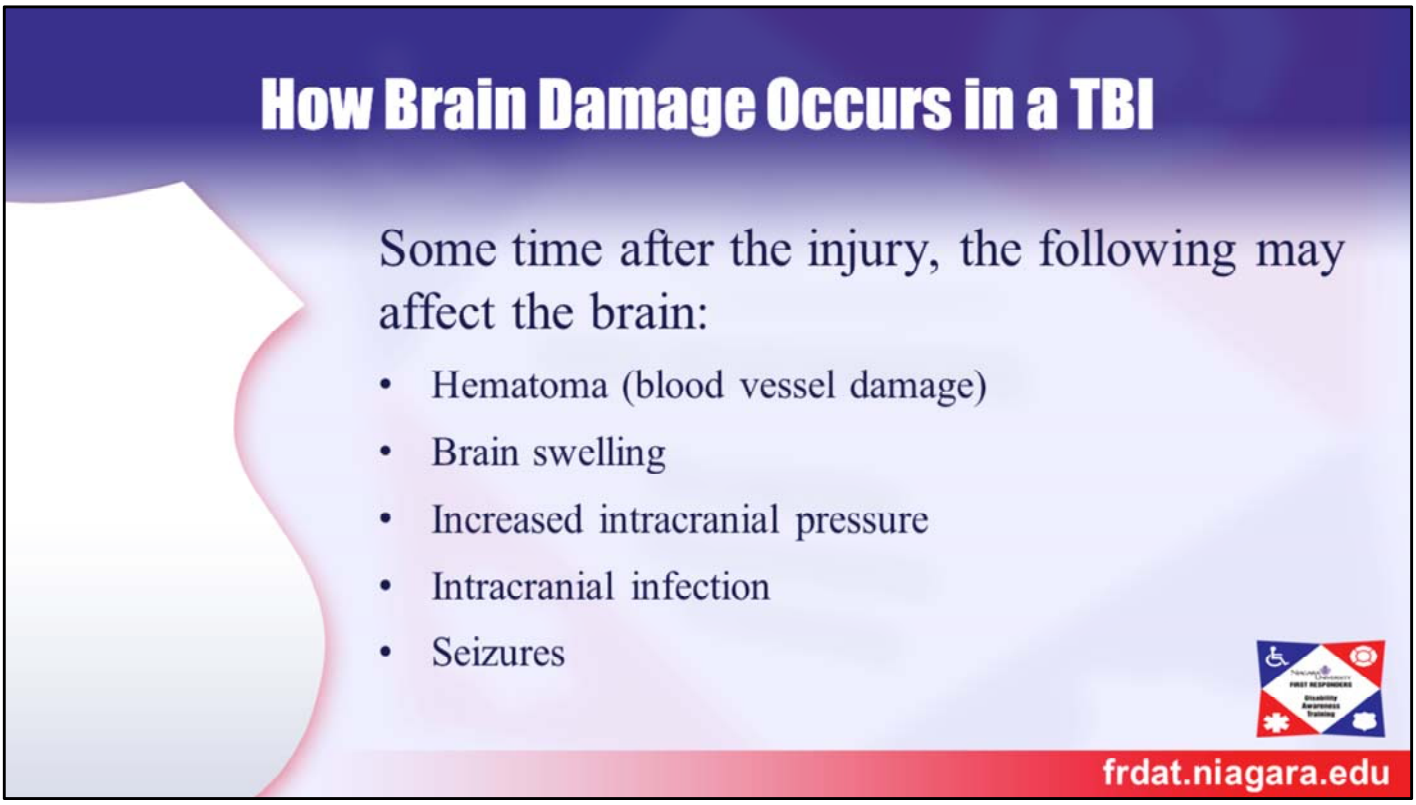


CLICK AND READ 5 BULLETS

- Some results of a brain injury. These are secondary injuries that can damage the structure of the brain.
- The most dangerous hematomas (pooled blood clots) are in the brain:
  - Subdural hematoma: a hematoma between the brain tissue and the inside lining of the brain. Both of these cause swelling & pressure on the brain.
  - Intracranial epidural hematoma: a hematoma between the skull and the outside lining of the brain. An epidural hematoma is caused by a tear in a large artery in the brain and can cause death in a very short period of time.
- Infections, such as meningitis, encephalitis, rabies, and

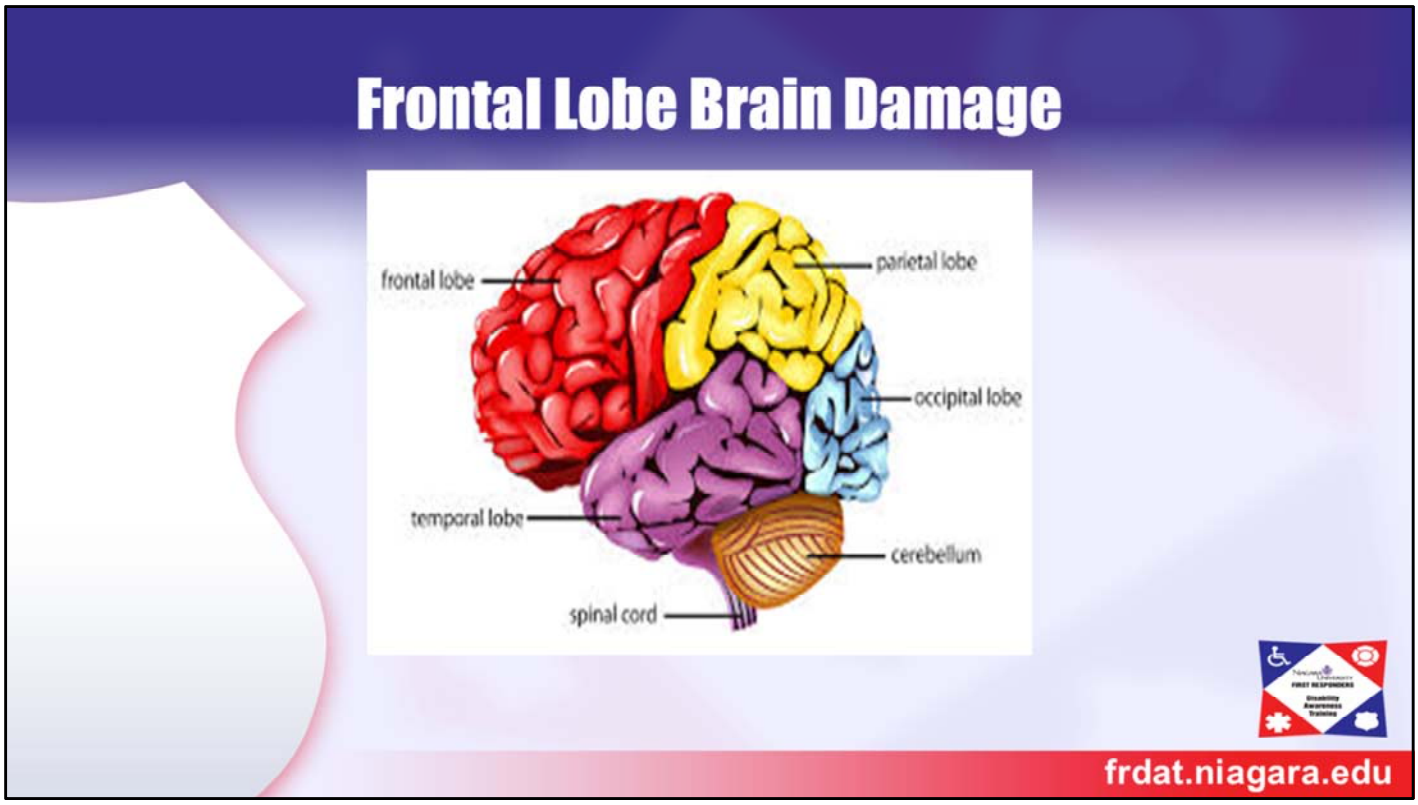
cytomegalovirus can cause severe brain damage and death. Polio, rubella, herpes simplex, herpes zoster, and West Nile virus also cause brain damage, but are less often fatal.

- Seizures can cause brain damage, especially when caused by fevers, when they last a long time, or when seizures are so close together that there is no return to consciousness between them.

- Essentially, these are two injuries in one.

PLAY VIDEO:

- Mat indicates the varying symptoms from his TBI.
- This includes vision difficulties, walking/balance, personality changes, frustration, anger, fatigue, and sleep disturbances
- He also notes the psychological/affective issues that include stress and anxiety
- He talks of what he has done to cope with the changes in his life
- Mat wants first responders to be aware of how it might present if it happened to you

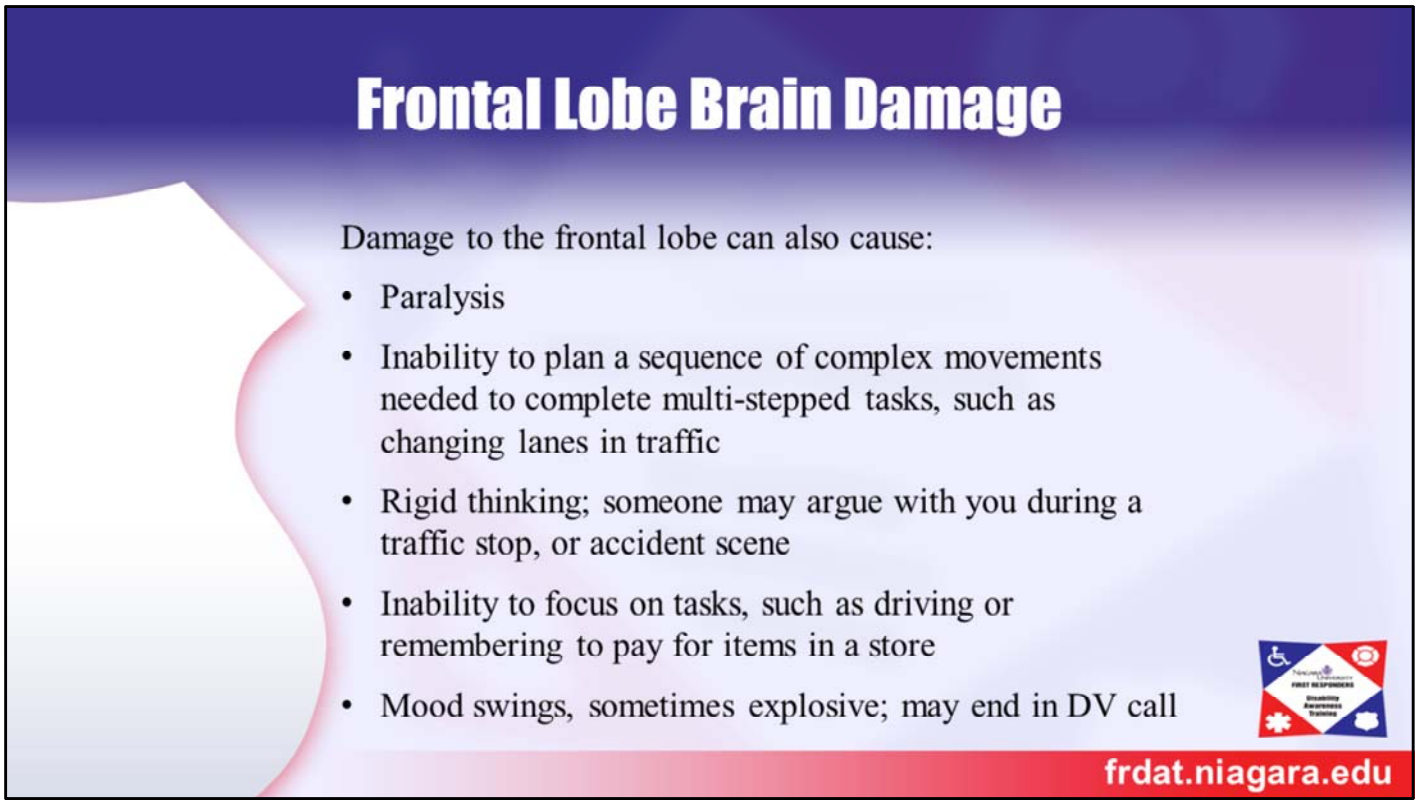


CLICK AND POINT TO FRONTAL LOBE ON SLIDE, THEN READ FOLLOWING:

Damage to the frontal lobe can cause:

- Dramatic changes in behavior
- Weakness on one side of the body or one side of the face
- Falling
- Inability to problem solve or organize tasks
- Reduced creativity
- Impaired judgment
- Reduced sense of taste or smell
- Depression
- Low motivation
- Low attention span, easily distracted
- Reduced or increased sexual interest or peculiar sexual habits

- Impulsive or risky behavior



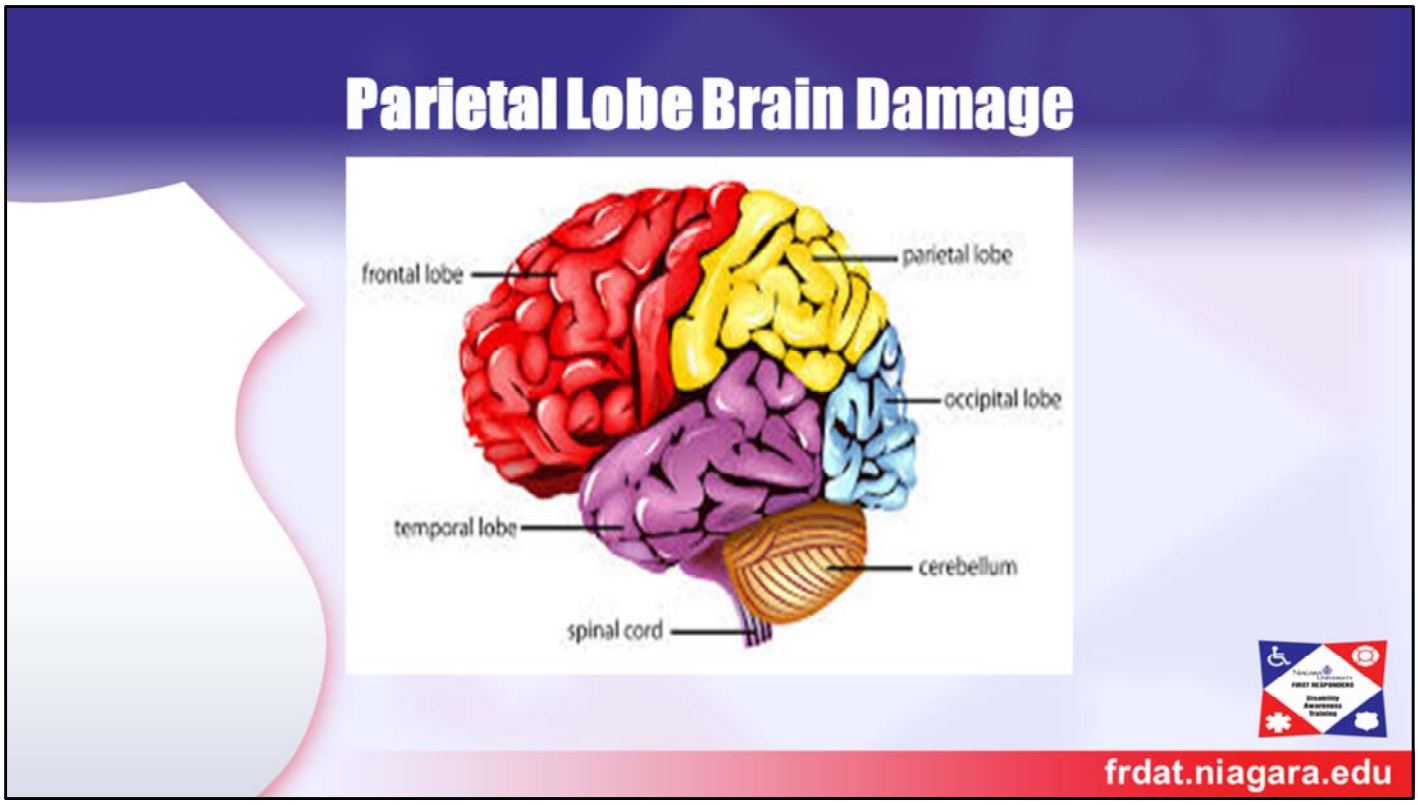
- Loss of spontaneity in interacting with others
- Loss of flexibility in thinking (Rigid Thinking). When this occurs, it is possible that someone will argue with you during a traffic stop, at an accident scene, or in response to a call about something a person might be doing or saying
- Persistence of a single thought (Perseveration). This can present similar challenges to rigid thinking
- Inability to focus on task, such as driving or remembering to pay for items in a store
- Mood swings may be detected with emotional lability.
- Changes in social behavior, such as making inappropriate

sexual or racist comments

- Changes in personality; a mild-mannered person may become surly or even violent
- Difficulty with problem solving
- Inability to express language (Broca's Aphasia).

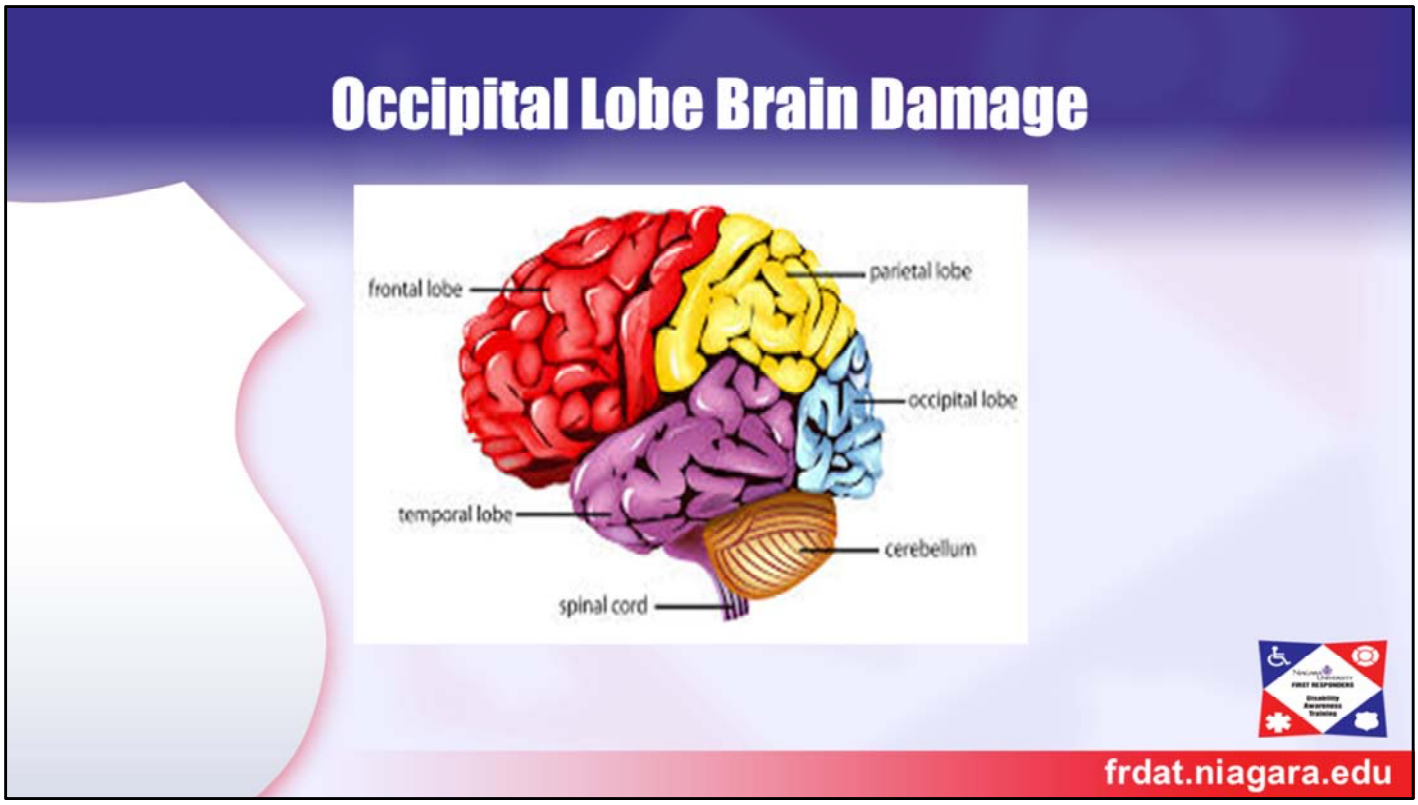
PLAY VIDEO

- How might one misconstrue Mike's behavior?
- How would you describe his communication?



CLICK AND POINT TO PARIETAL LOBE THEN READ ACCOMPANYING PARAGRAPH

May result in inability to name an object, inability to "find" words to write, difficulty with reading – street or warning signs could be missed, difficulty distinguishing left from right, difficulty with eye-hand coordination and inability to focus visual attention - resulting in impaired driving.



CLICK AND POINT TO OCCIPITAL LOBE, THEN READ THE FOLLOWING:

Damage to the occipital lobes (at the rear of the head) may lead to the following:

- Defects in vision (Visual Field Cuts).
- Difficulty with locating objects in environment.
- Difficulty with identifying colors (Color Agnosia).
- Production of hallucinations.
- Visual illusions – inaccurately seeing objects.
- Word blindness – inability to recognize words.
- Difficulty in recognizing drawn objects.
- Inability to recognize the movement of object (Movement Agnosia).
- Difficulties with reading and writing.
- Reduced peripheral vision.

Example of Visual Field Cut associated with Occipital Lobe damage

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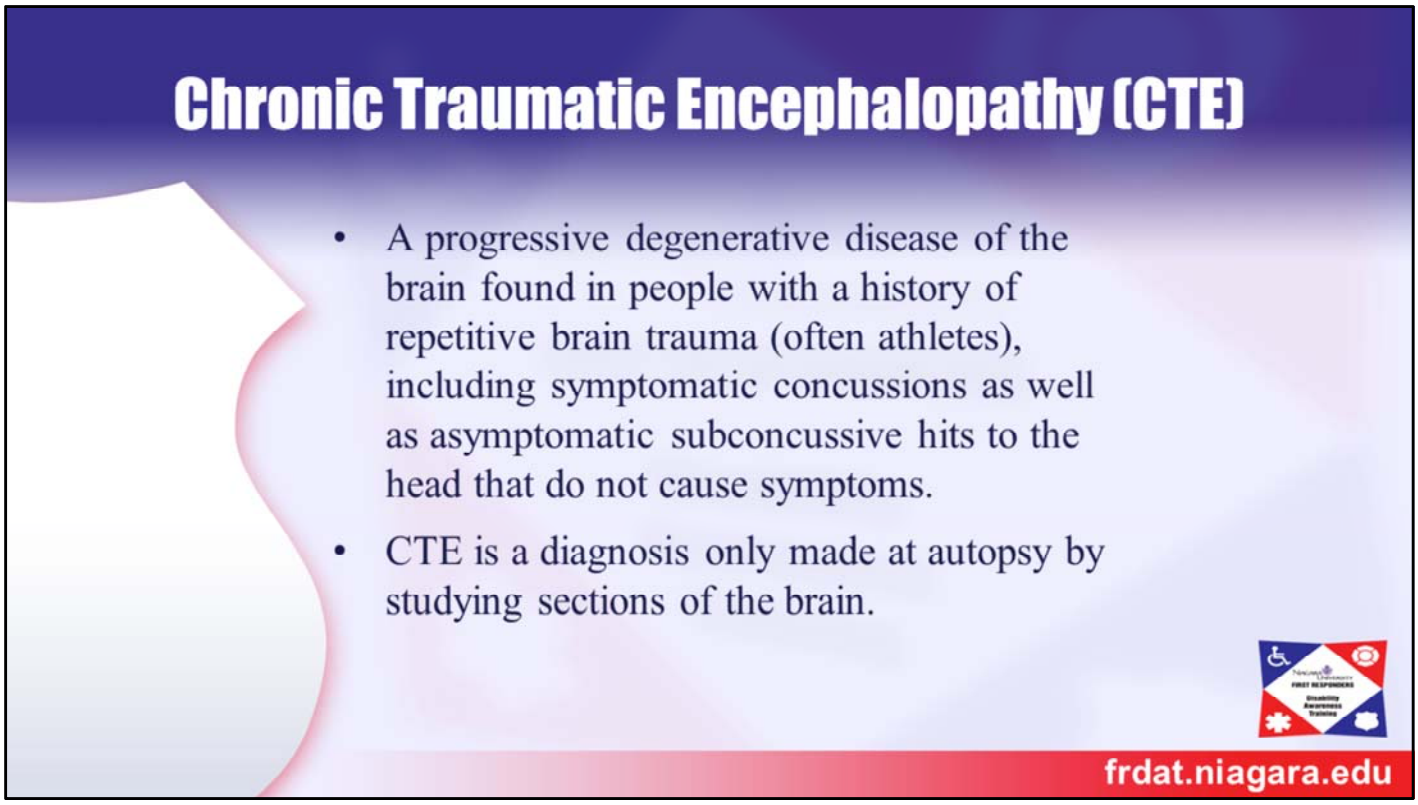
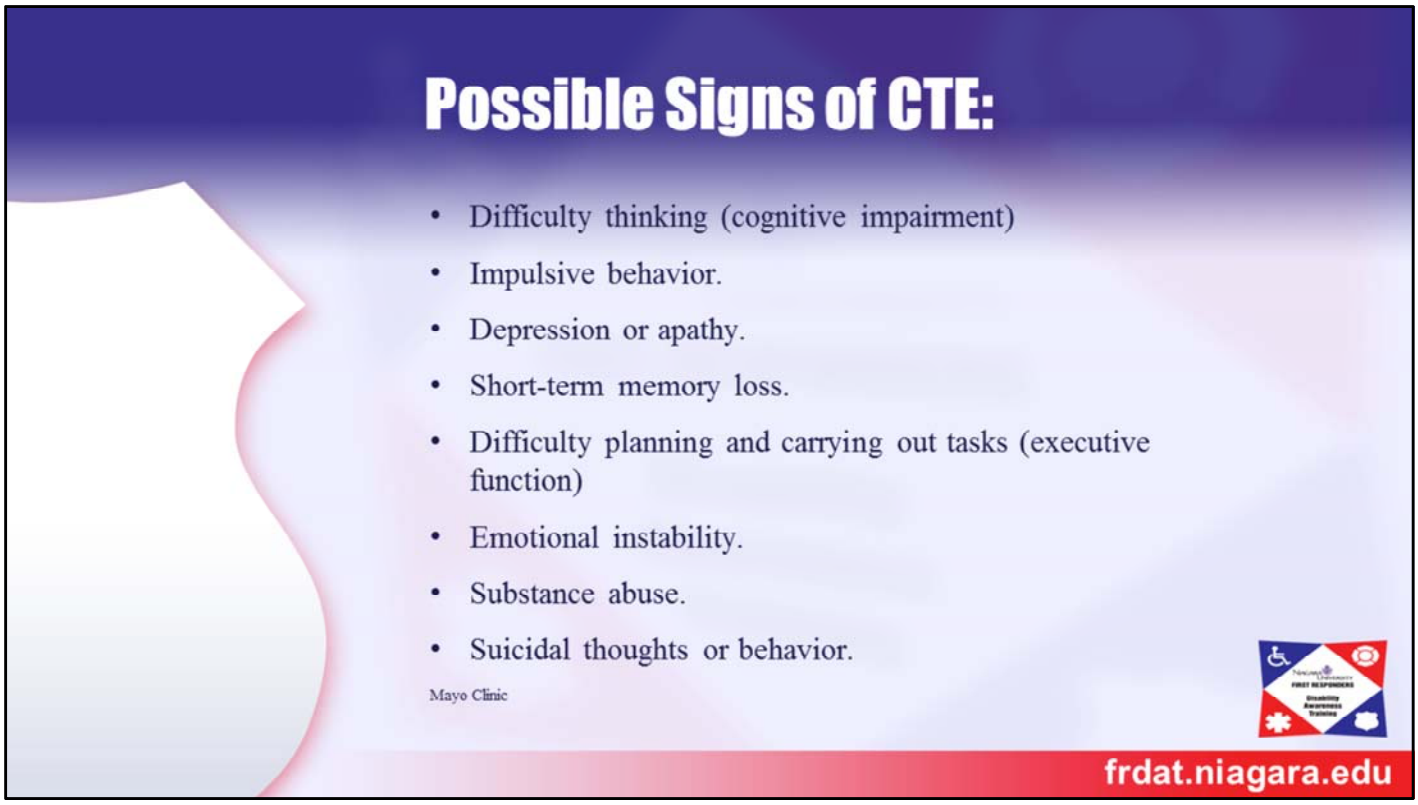
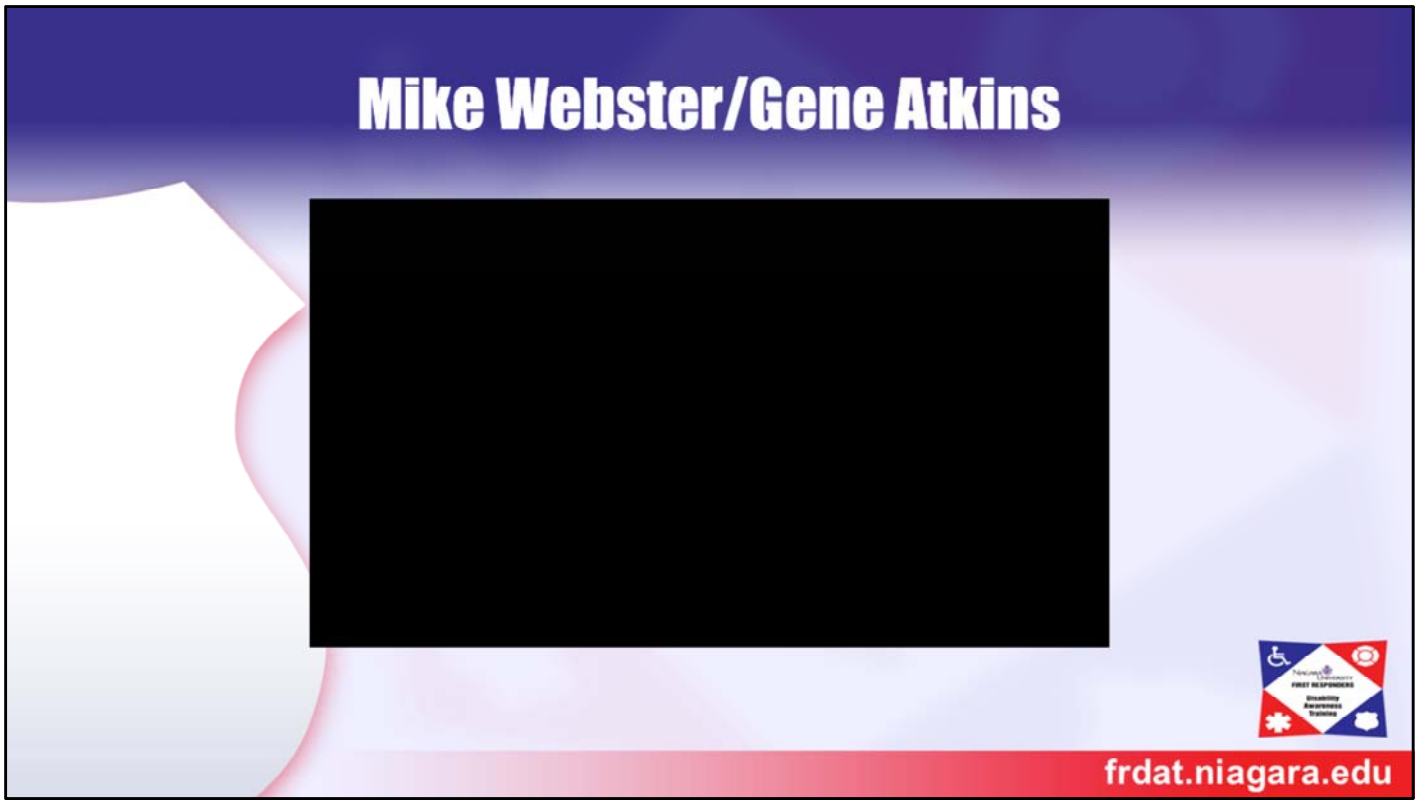


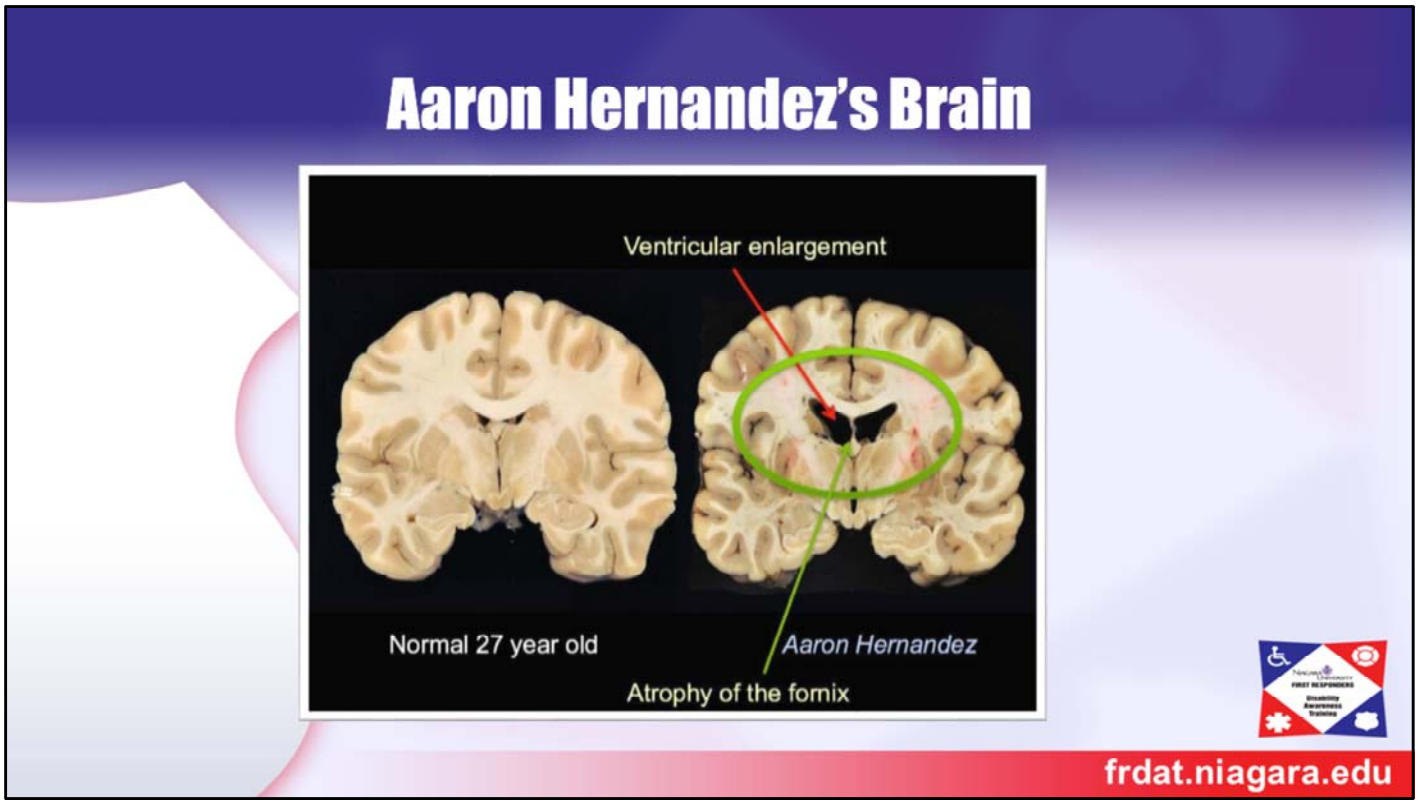
➢ CTE can only be diagnosed after the person has died.



- This has gained national attention from retired NFL players who have made headlines



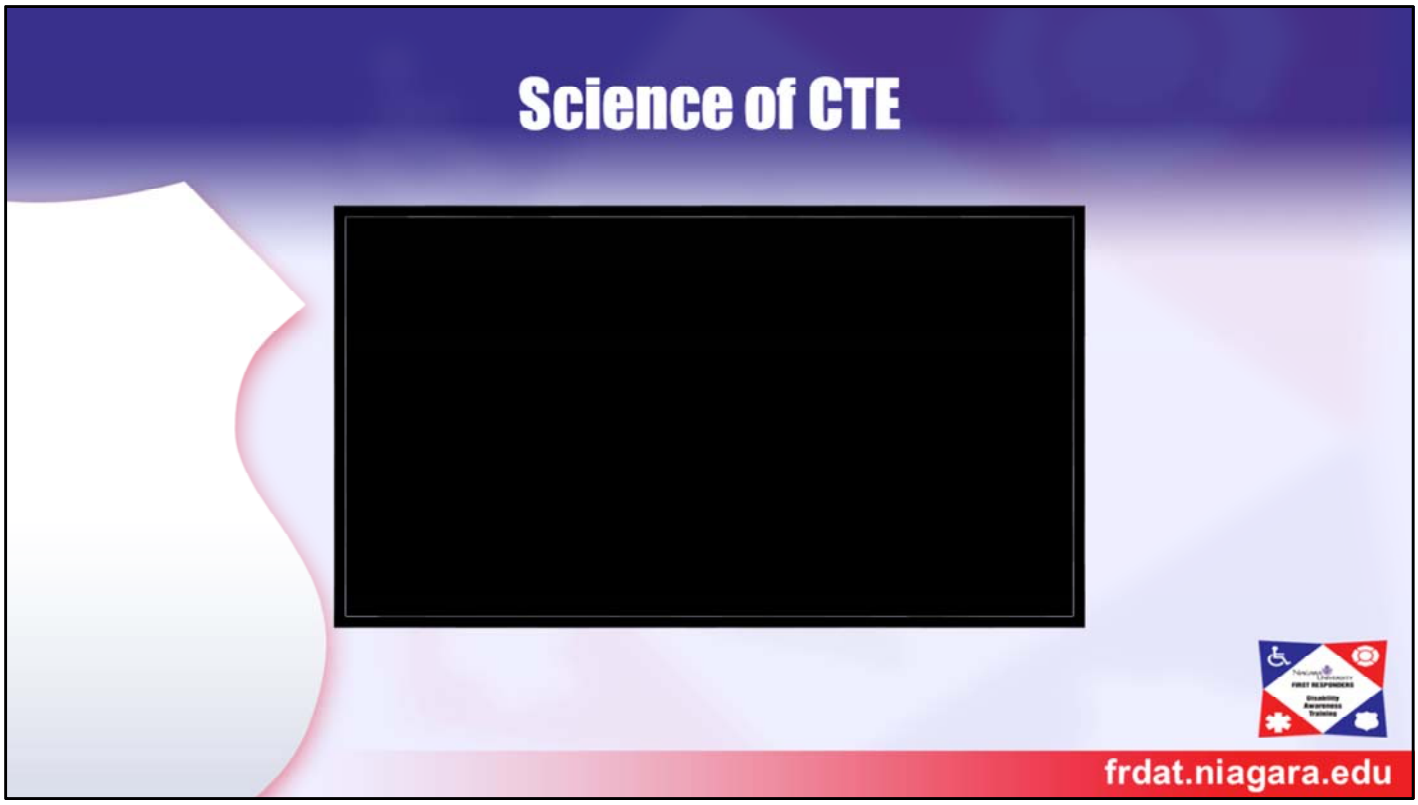
- Webster was the first former NFL player diagnosed with CTE
- Since his death, he has become a symbol for head injuries in the NFL and the ongoing debate over player safety.
- His doctors were of the opinion that multiple concussions during his career damaged his frontal lobe, which caused cognitive dysfunction
- He died of a heart attack at the age of 50



- An autopsy of former NFL player Aaron Hernandez's brain revealed that the athlete had a severe form of the brain disease chronic traumatic encephalopathy (CTE) when he died in April.

- The analysis of Hernandez's brain was particularly striking; in a press release, his family's lawyer announced that Hernandez had "the most severe case they had ever seen in someone of Aaron's age." (Hernandez was 27 when he committed suicide while serving a life sentence in prison for murder.)

- Hernandez's CTE had progressed to the level that doctors might expect to see in a 60-year-old, according to the The New York Times.


Science of CTE
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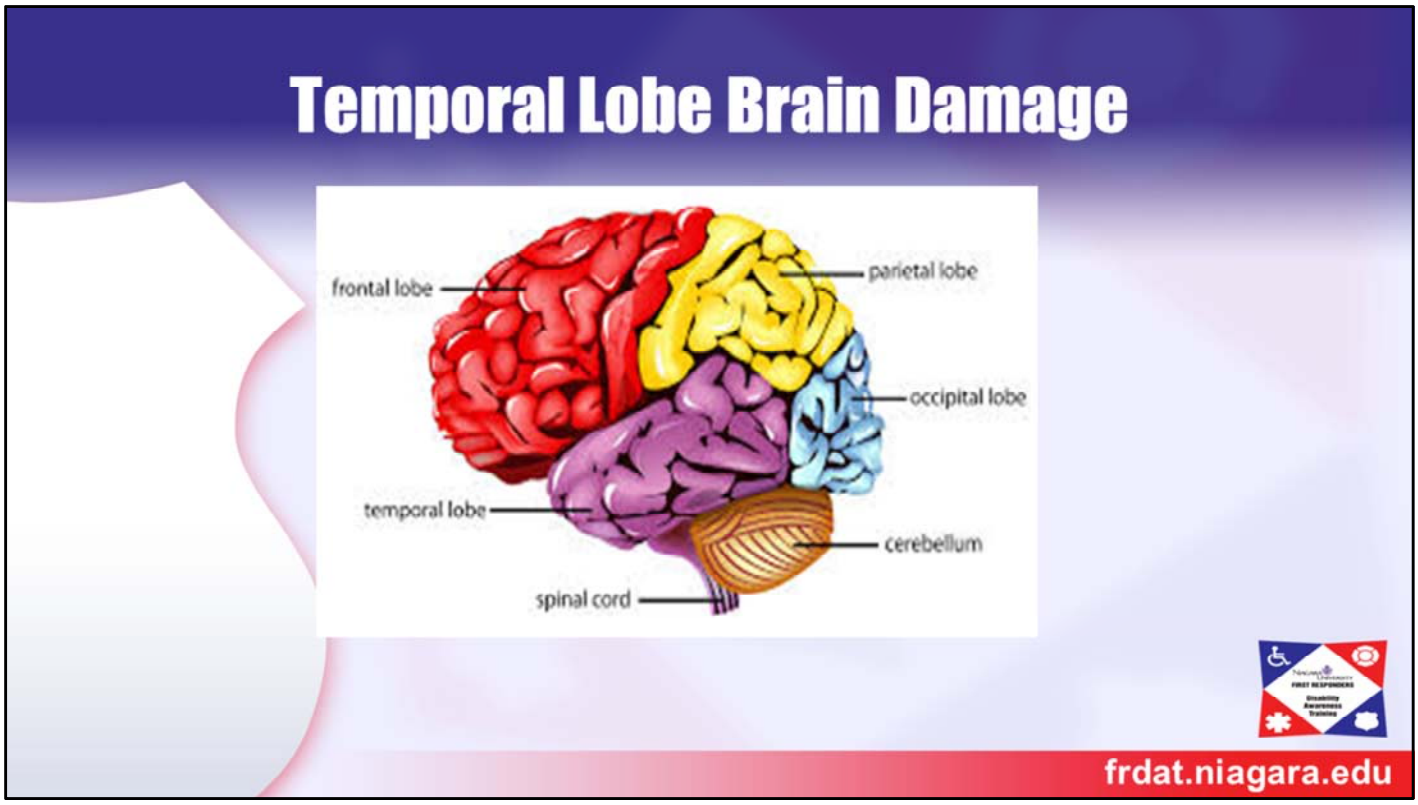
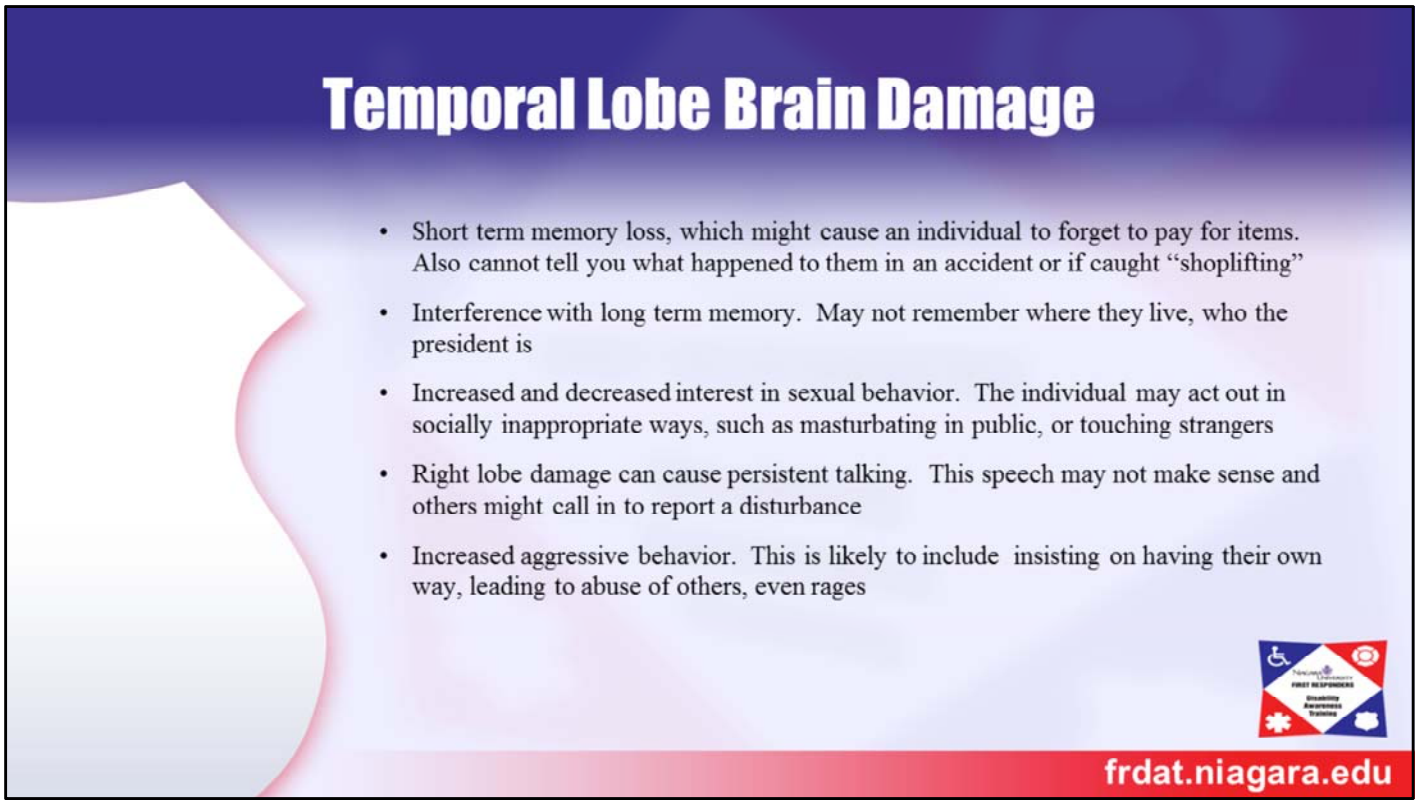


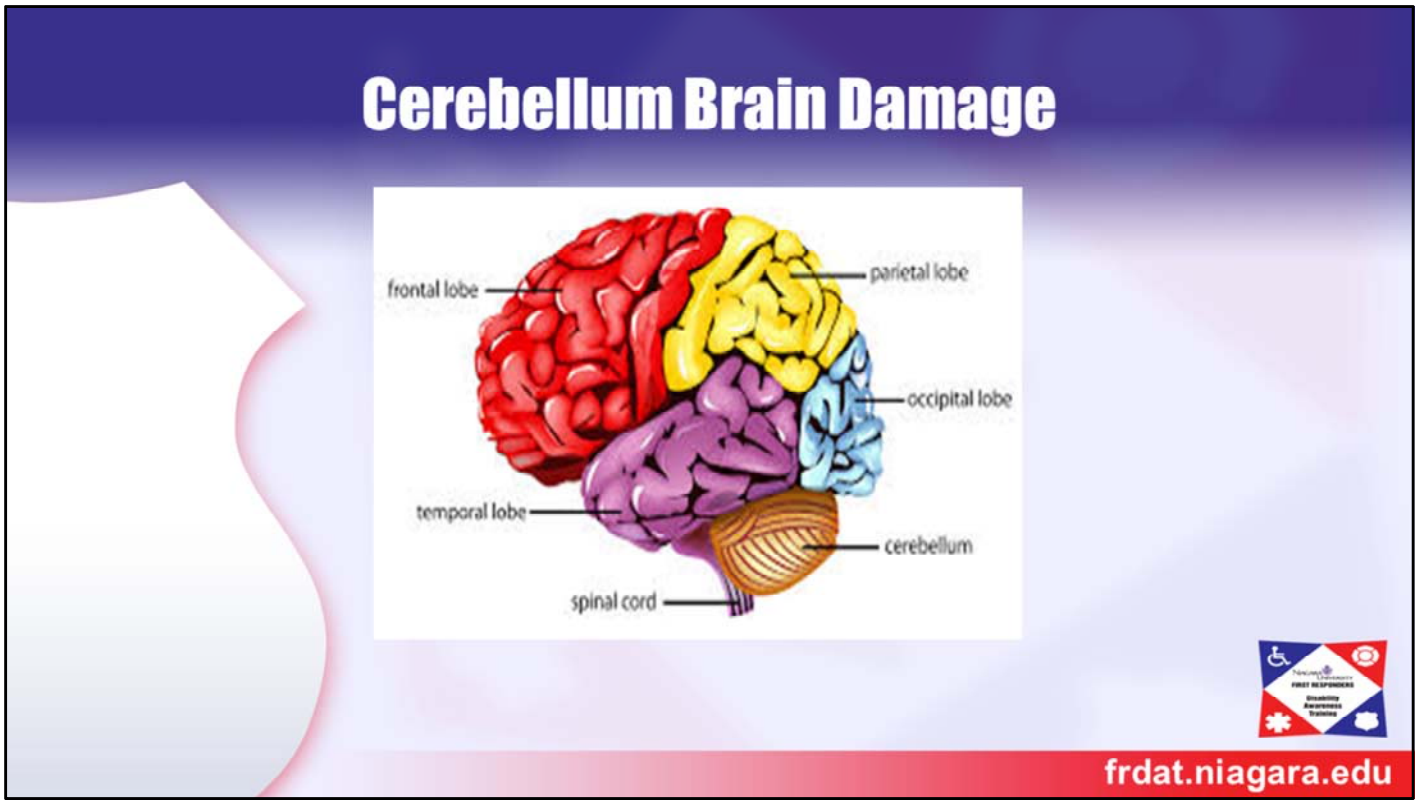
CLICK AND POINT TO TEMPORAL LOBE, THEN READ THE ACCOMPANYING PARAGRAPH:

- Temporal Lobe Damage (side of head above ears) often causes which makes it impossible to describe an assailant's face, or pick one from a line-up

- Note the challenges posed by this area of the brain.
- While we do not expect officers to remember the specifics areas of brain damage and how they present, an awareness of the disability will alter approach and interaction.



- When an officer encounters people who are struggling with remembering the most basic things in their life, we need to think about the disabilities that may come to play



CLICK AND POINT TO CEREBELLUM, THEN READ FOLLOWING:
Brain damage to the cerebellum, found at the base of the skull may result in:

- Loss of ability to coordinate fine movements. While this might not bring an individual to your attention, it's possible that this could be a driving hazard

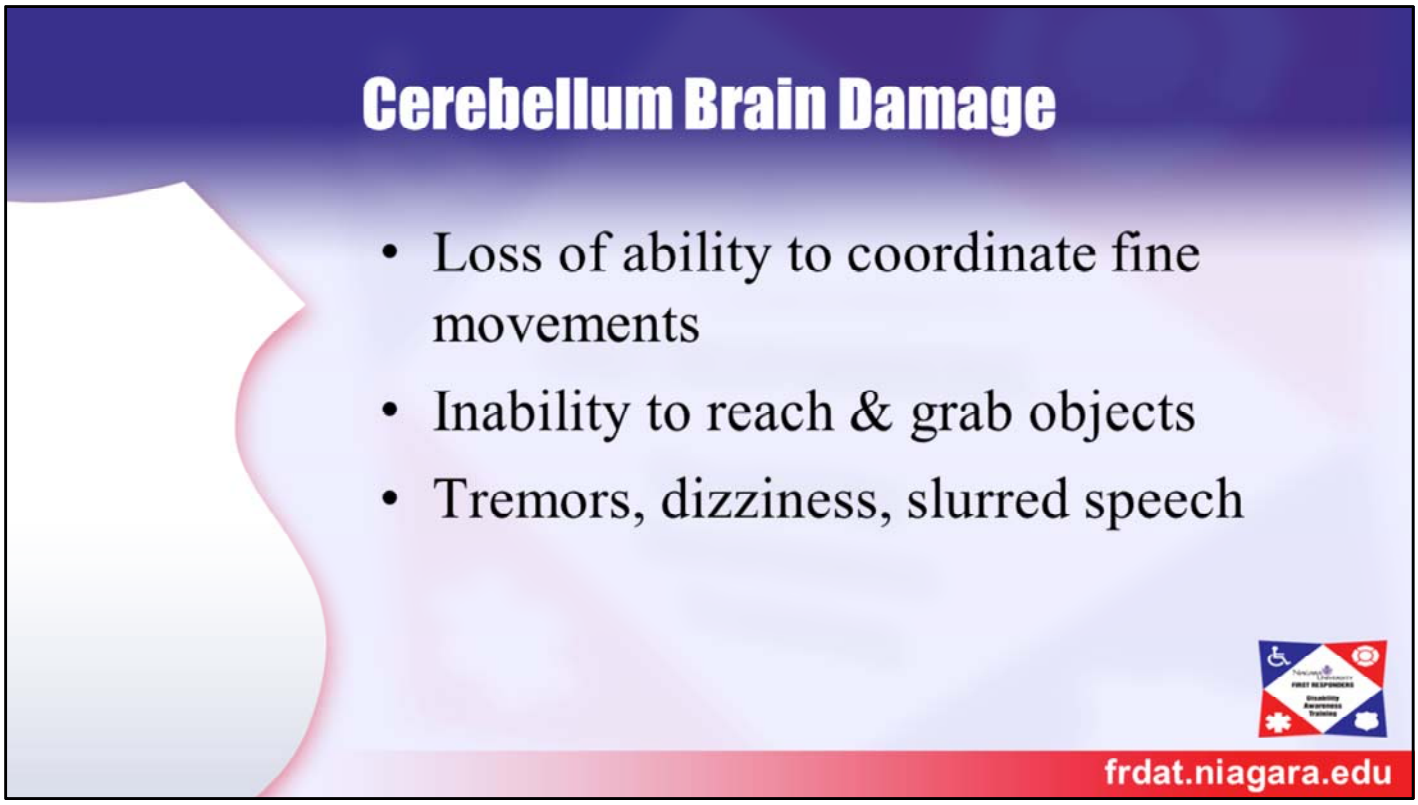
- Inability to reach out and grab objects. Once again, potential driving hazard

- Tremors. This could be a driving hazard depending on how severe the tremors are; could also lead to calls reporting seizure activity

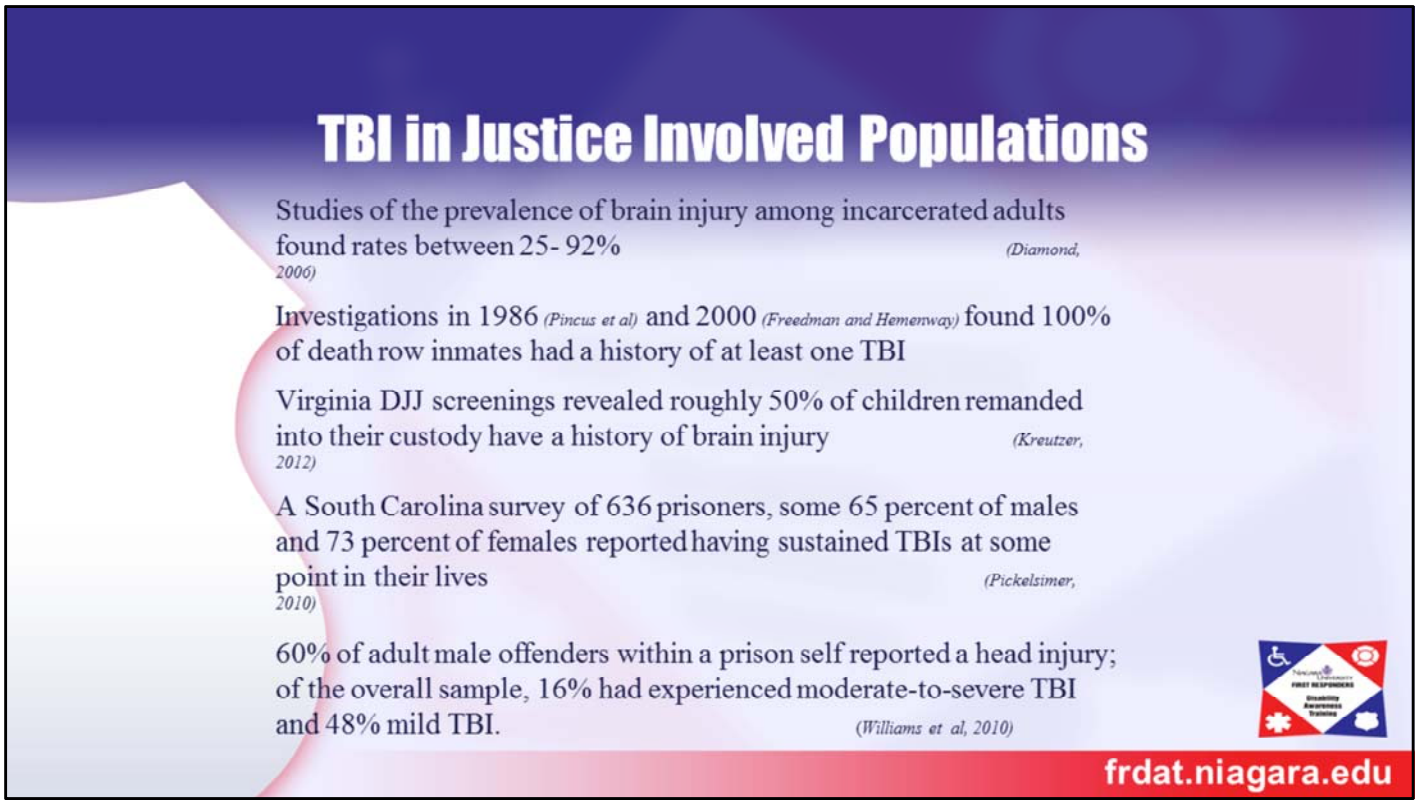
- Dizziness (Vertigo); again, potential driving hazard, as well as

reports of drunkenness if individual falls

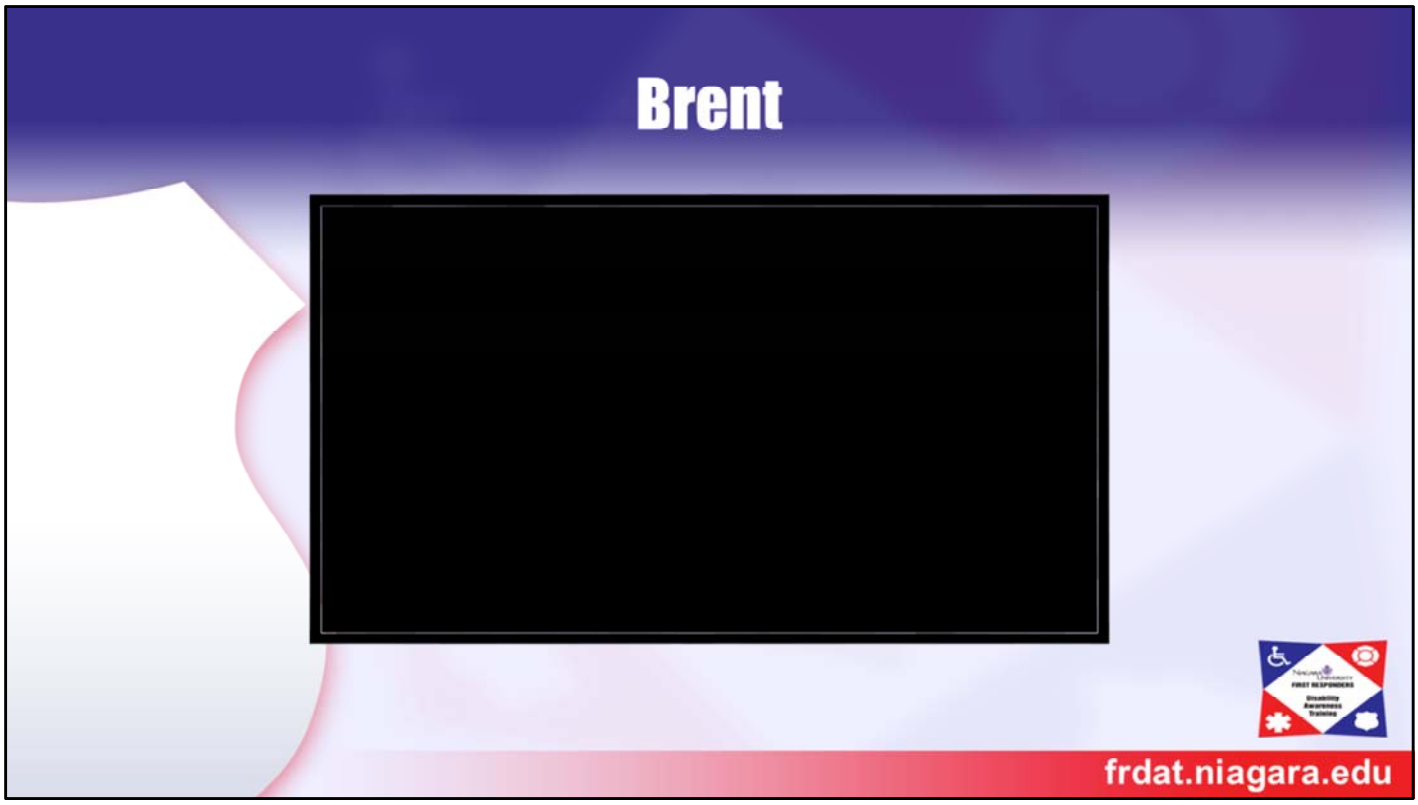
- Slurred Speech; high likelihood of calls reporting drunkenness



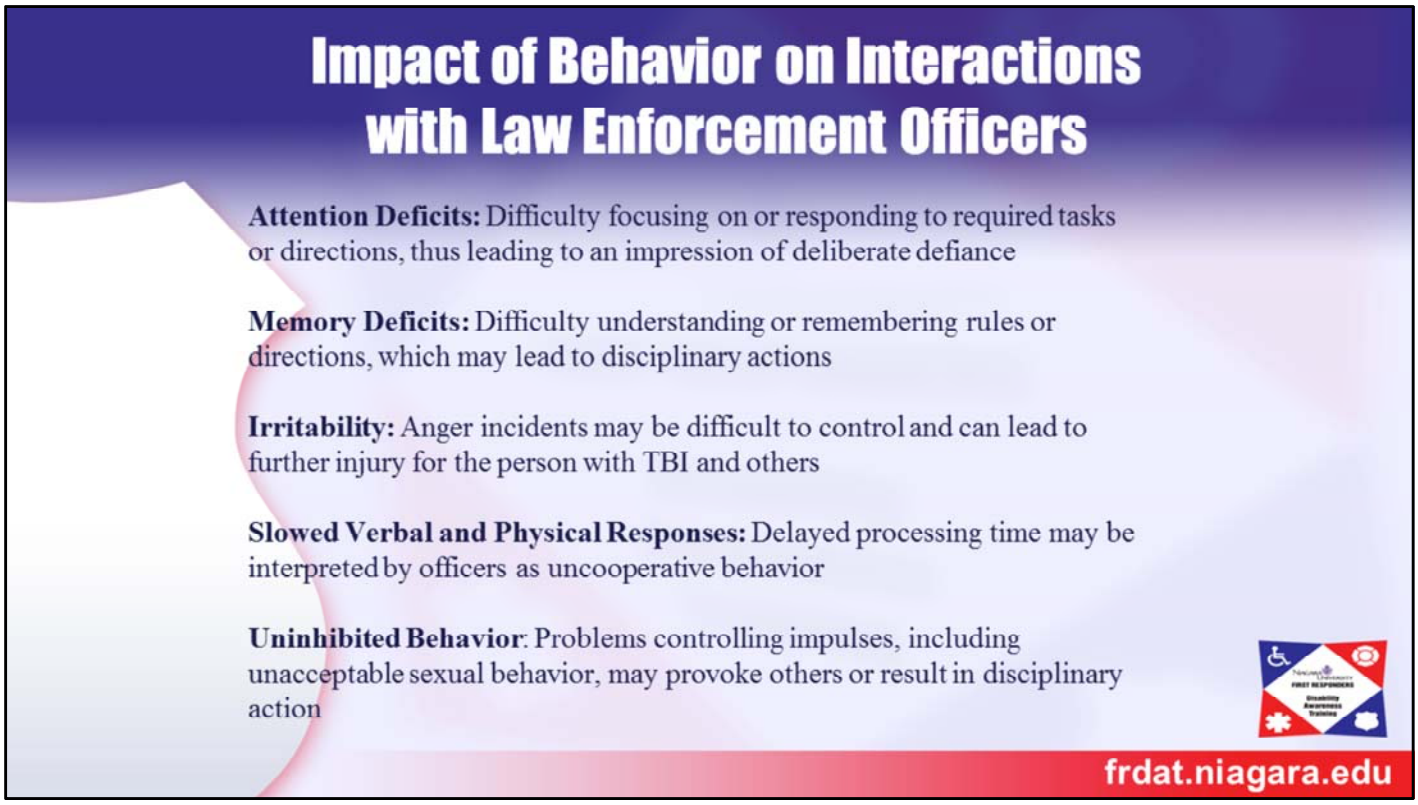
- Could be dangerous while driving.
- Also can lead to mistaken arrest due to suspicion of drunkenness.



CLICK AND READ 5 SENTENCES



- Note Brent indicates 130 symptoms have been present in his life
- He notes 15 or so
- Note the issue with light, having to wear a hat in the studio. A light in the eyes would be very difficult



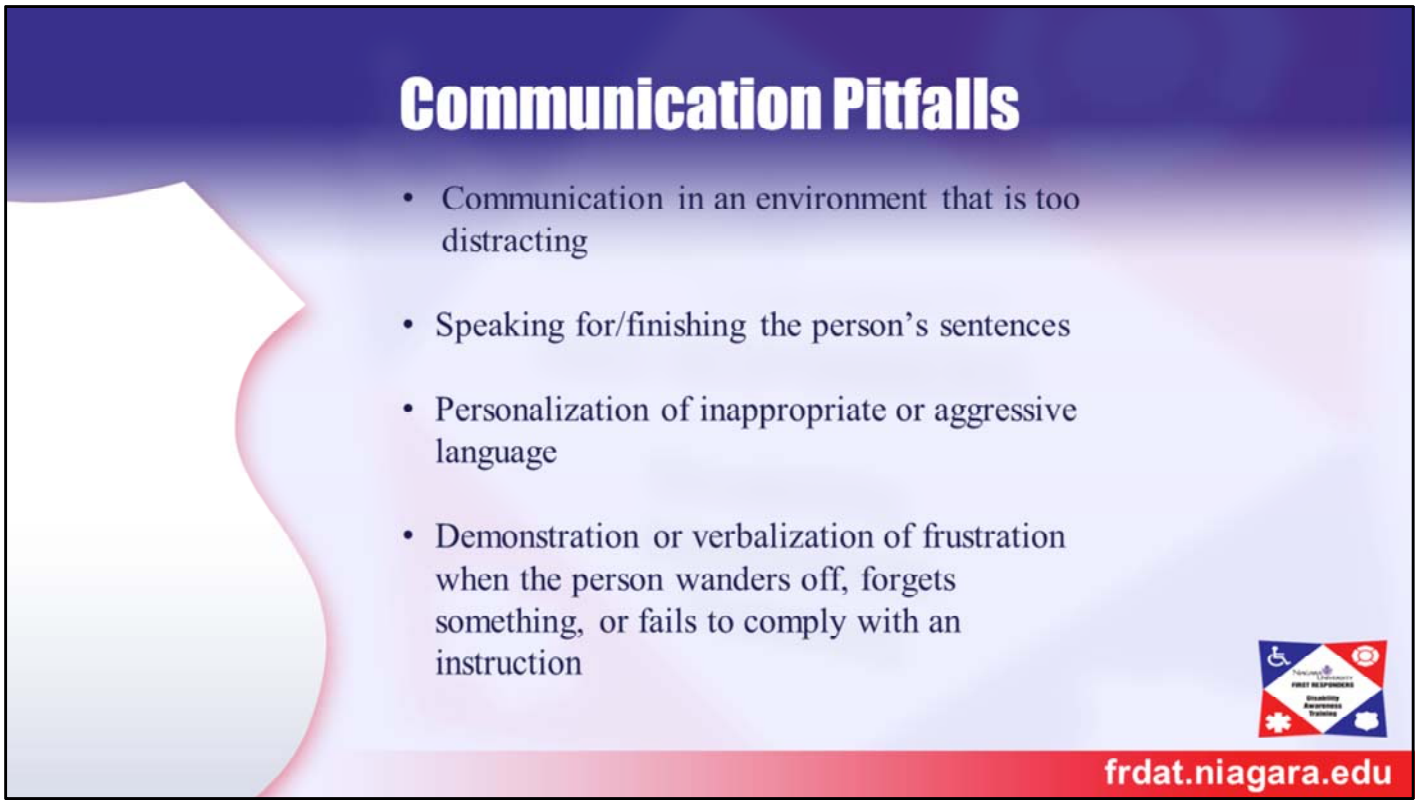
CLICK AND READ 5 SENTENCES

- These are some of the main areas that may present to an officer.
- If s/he is aware of a TBI, it would call for an altered approach

CLICK AND READ 5 BULLETS

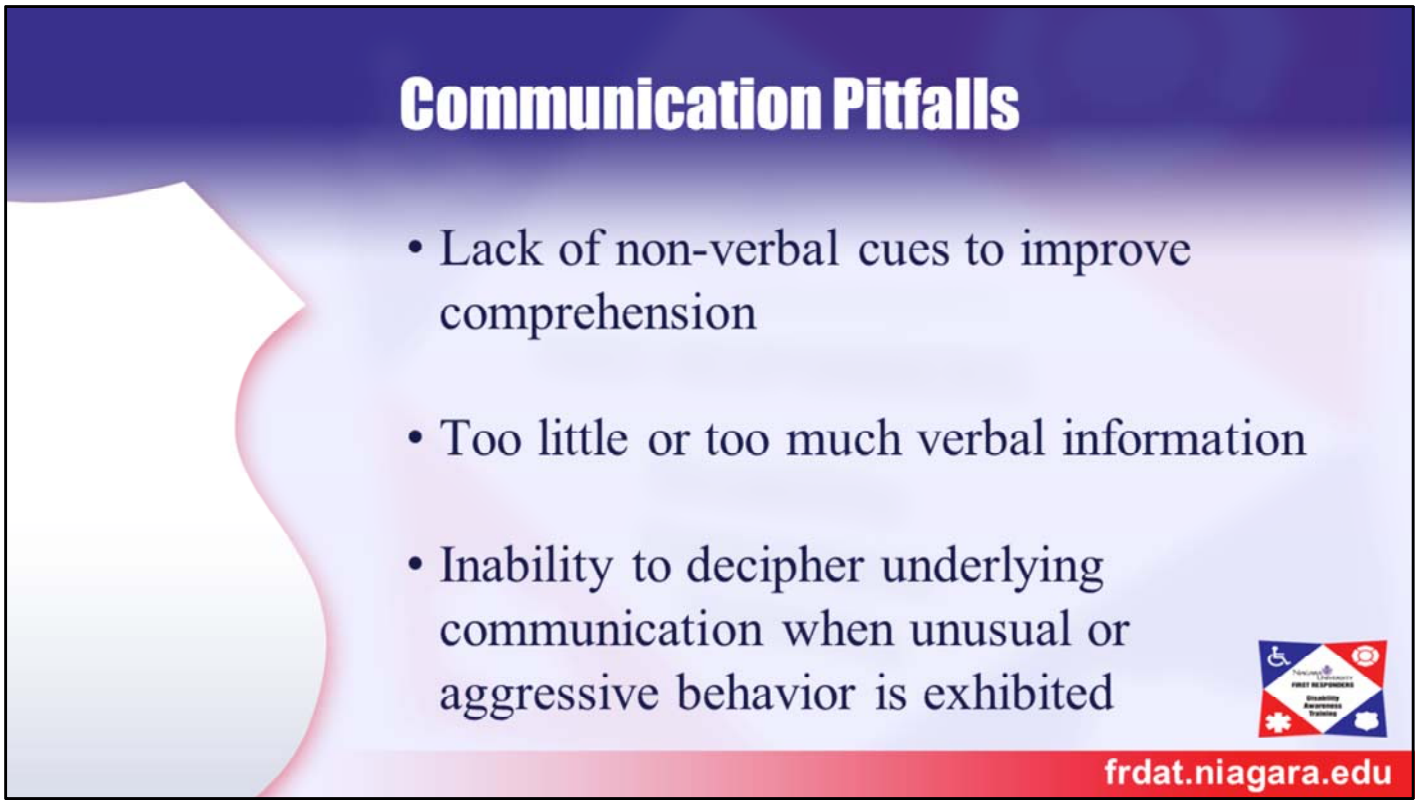
- These are types of communication issues you might encounter in dealing with someone with a brain injury.
- These are typical of the injury and requires the officer to observe the behavior in the context of what they know about brain injury

- Note how challenging this may be for an officer

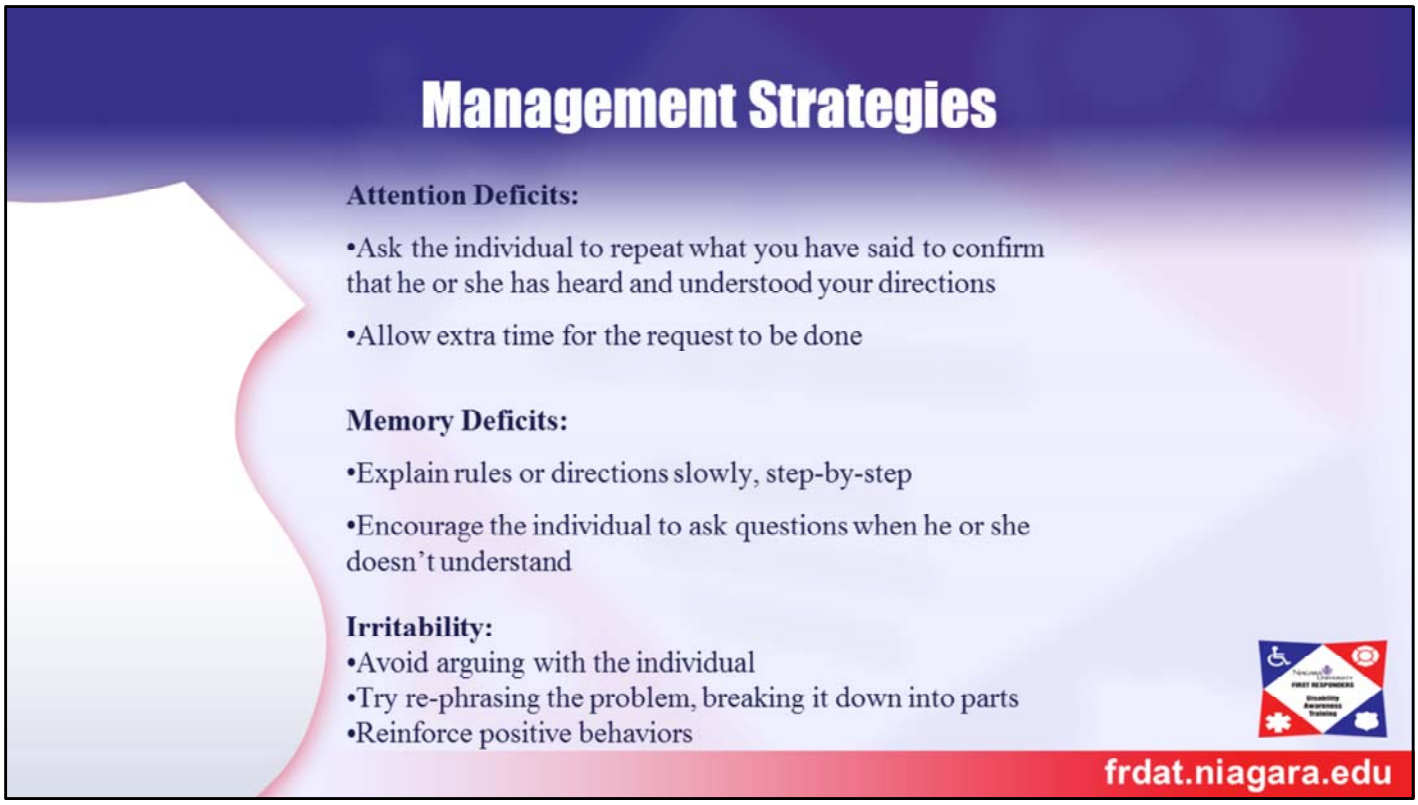


CLICK AND READ 4 BULLETS

- These are ways **your** communication and interaction with someone with brain injury may make things harder.
- Initial interaction should allow the person to attempt to finish the sentence. However, you may need to assist if it is not progressing
- Individuals can be foul and nasty in their language, however, it is not easily controlled
- Try to disguise your frustration.

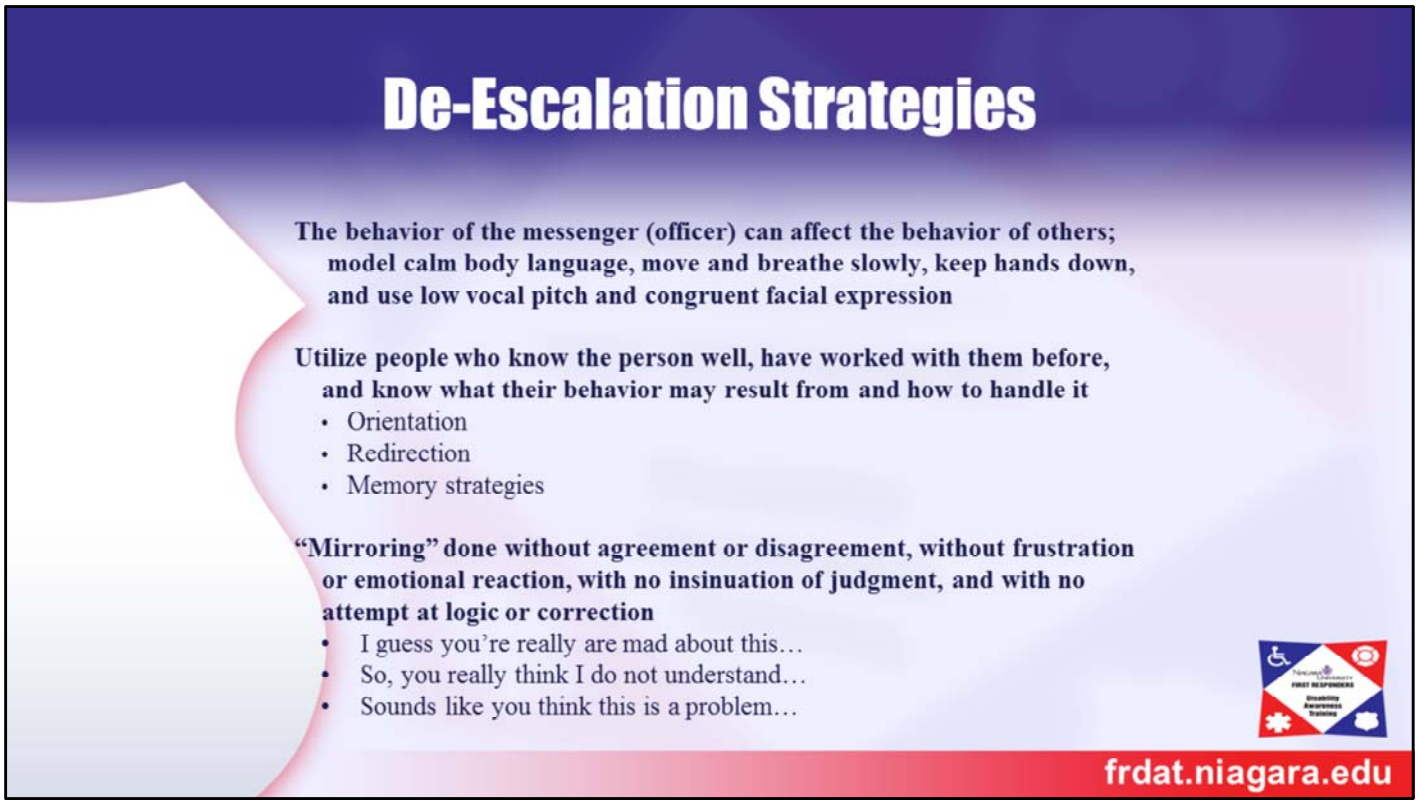


- They may not be able to read your non-verbal cues
- They could be very limited in their information sharing or provide too much. They will not know when to stop.



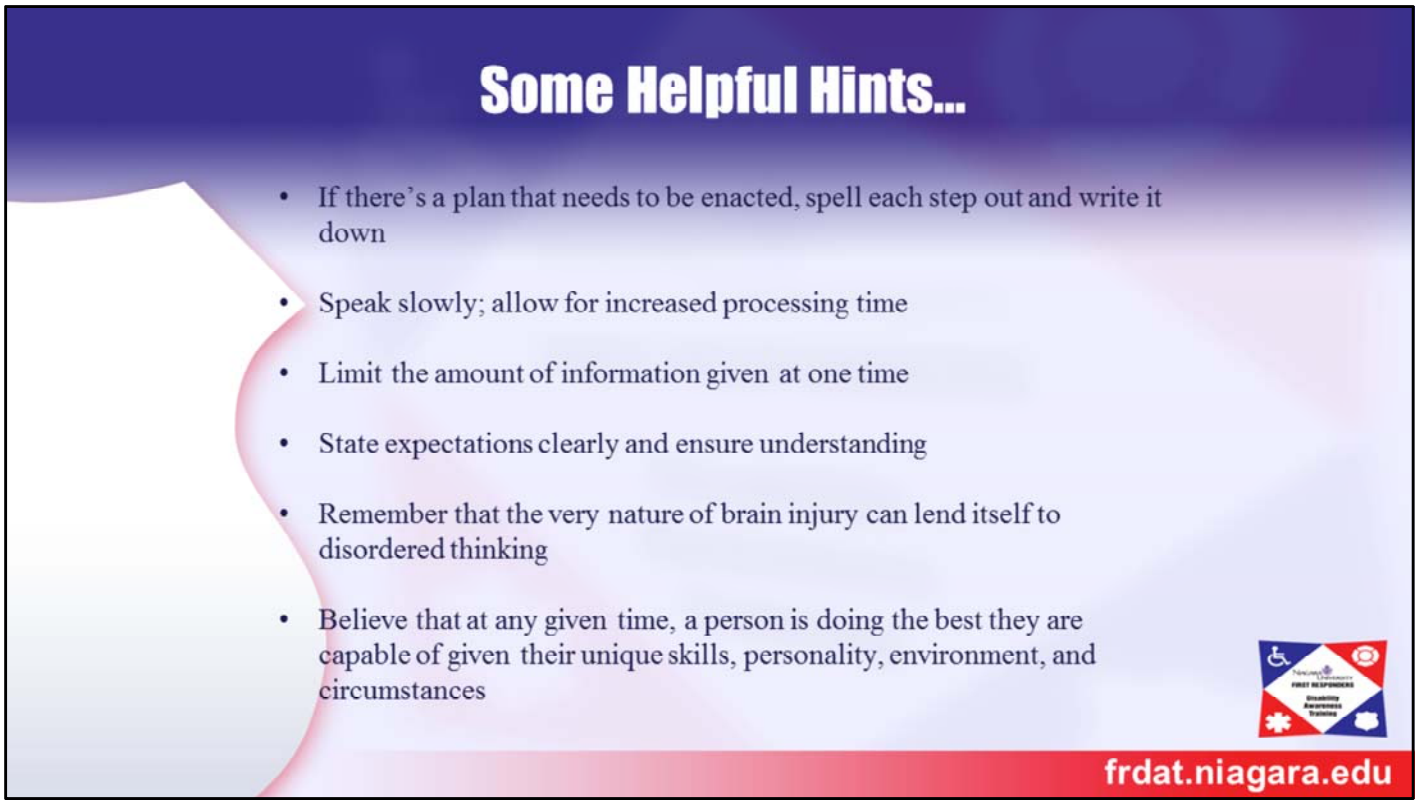
CLICK AND READ 7 BULLETS

- Repeating what you have said cold indicate to you they are following along, and hopefully understanding
- Patience is imperative
- Each directive or rule should be done deliberately. Wait for one to be processed before proceeding
- When they irritable, never argue, look to redirect by noting positive attributes and behaviors, and rephrase if necessary



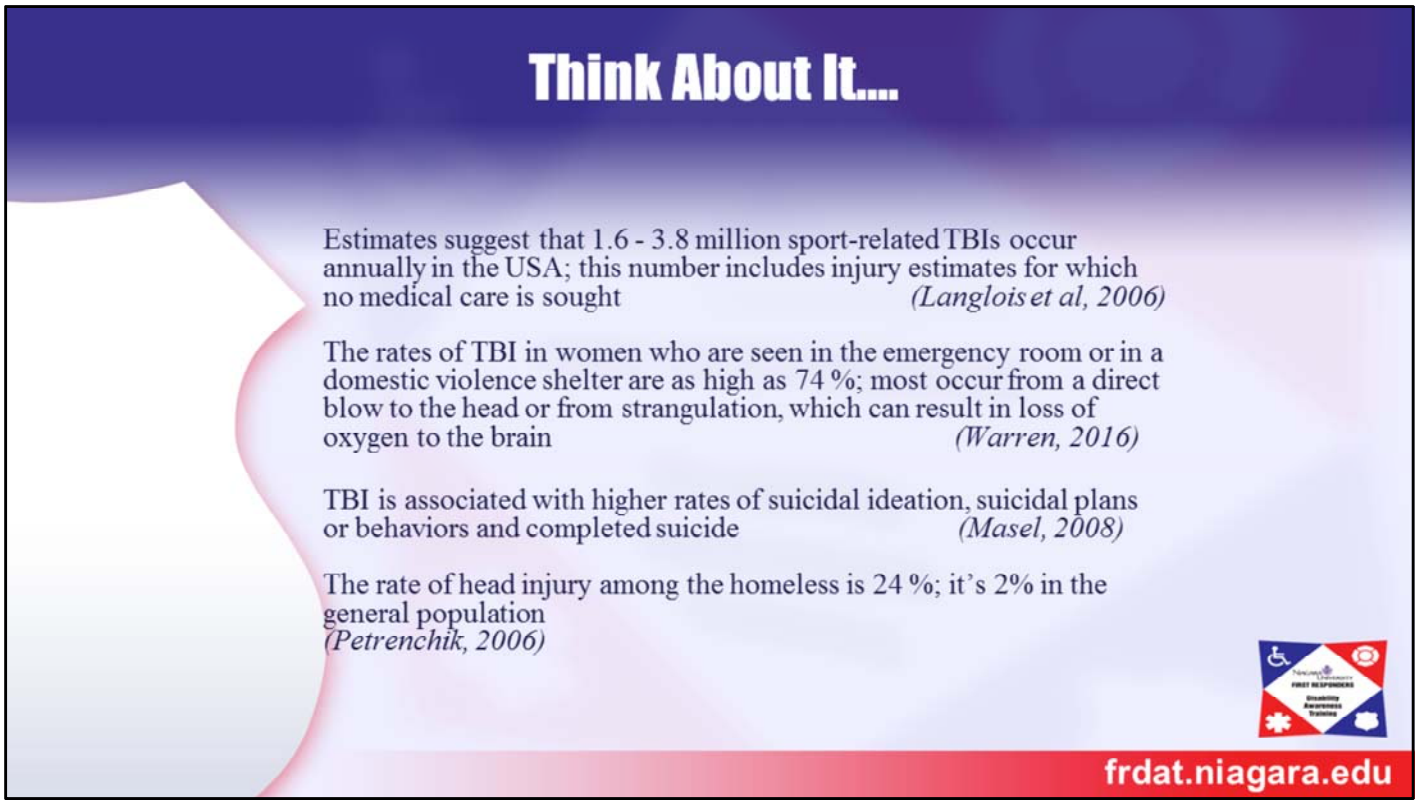
CLICK AND READ 3 PARAGRAPHS

- Many of these are likely familiar to you, but always worth mentioning. They are used frequently with people with brain injury



CLICK AND READ 6 BULLETS

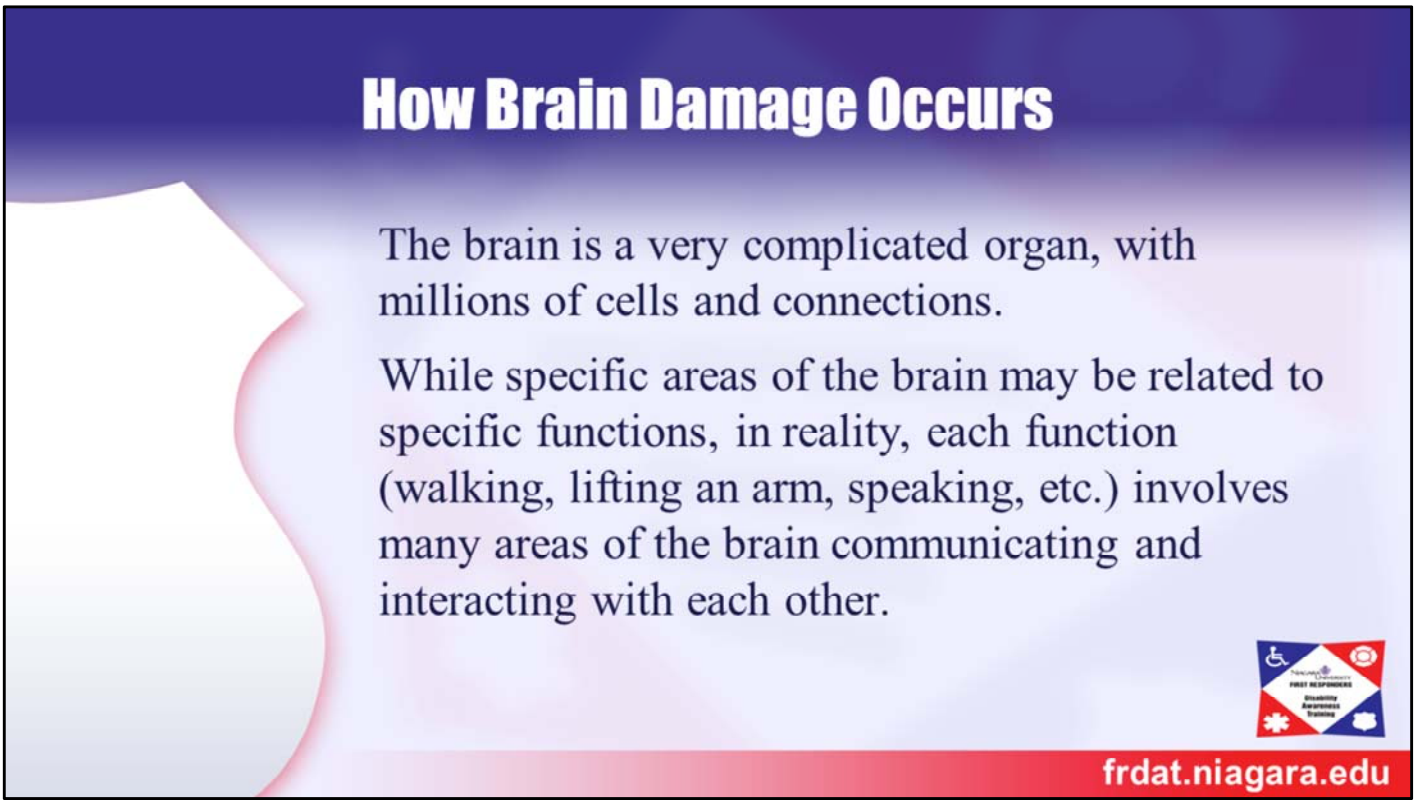
- Following these hints will make your job easier and safer for both you and the individual



CLICK AND READ 4 PARAGRAPHS

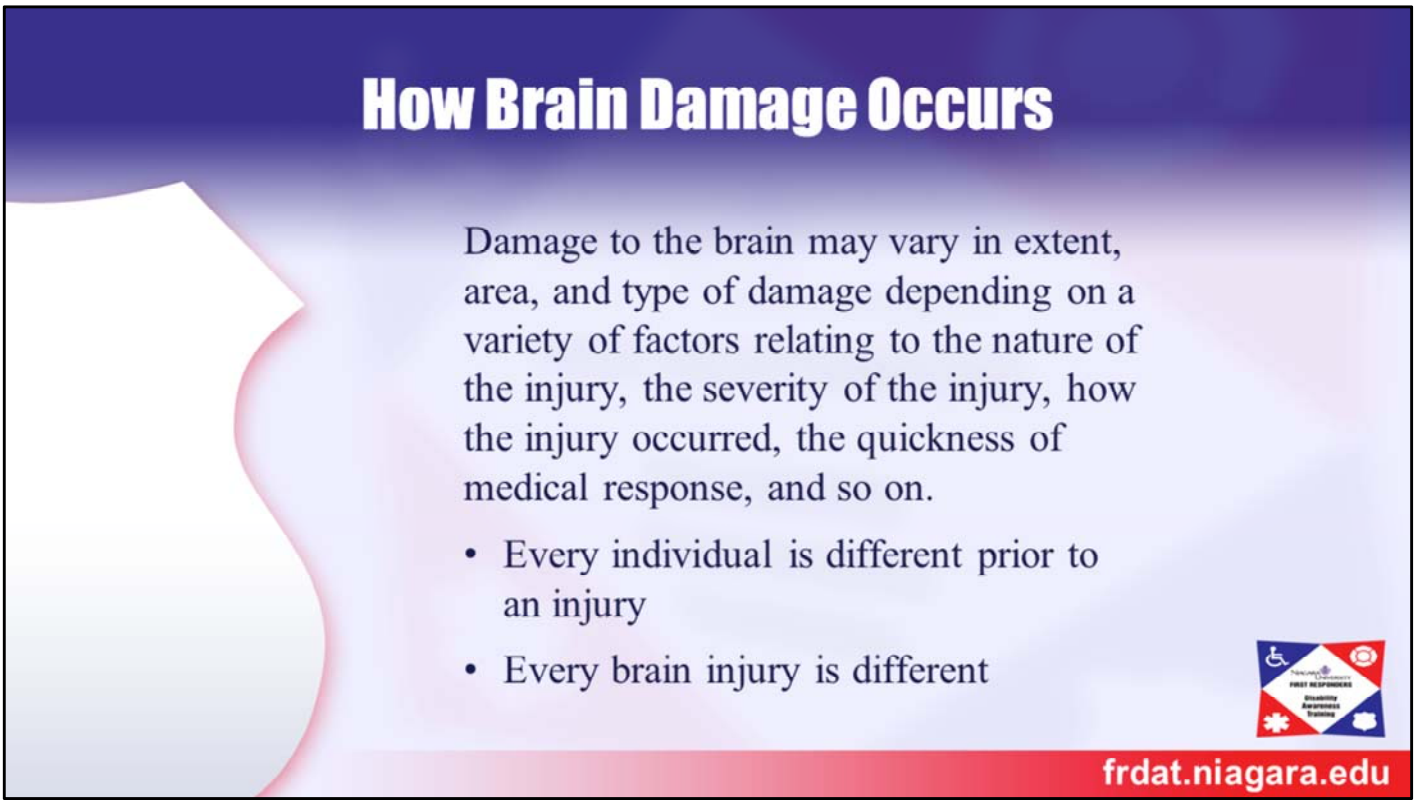
- This slide connects the dots between brain injury and other points we've made.
- First, there are many brain injuries that go unreported and unrecognized.
- People who have experienced assault are or have been in a state of altered consciousness if they've been hit in the head or strangled. That needs to be taken into consideration when someone is questioned at the time of the incident and then at some later point.
- The trauma may make it especially difficult to remember details of the assault.
- Studies of the homeless have shown that most sustained their injury before they became homeless; if you can't hold down a job and manage your life because of your injury, homelessness

is not far away.



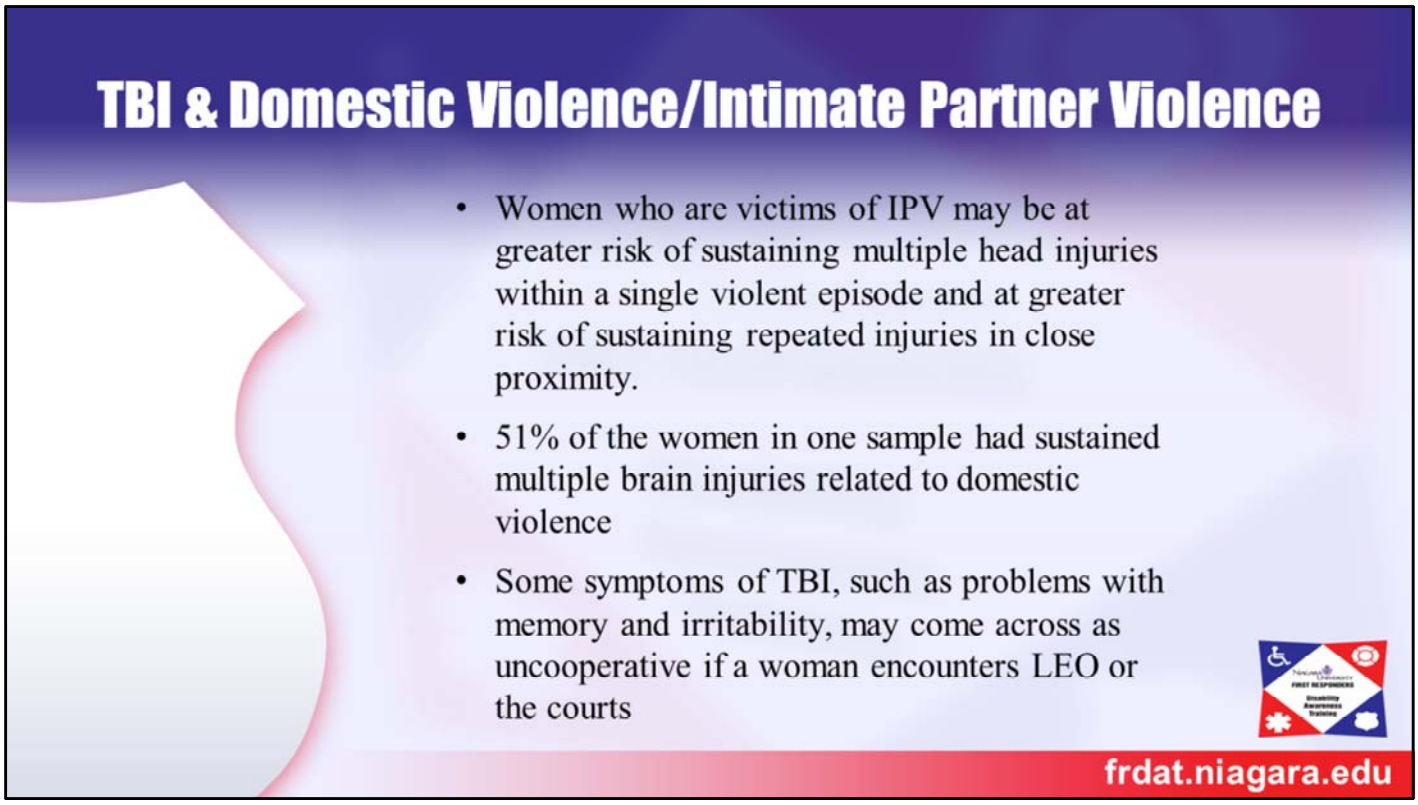
CLICK AND READ 2 POINTS

- Being a complicated organ, it is very difficult to pinpoint just how an injury may affect a person.



CLICK AND READ PARAGRAPH AND 2 BULLETS

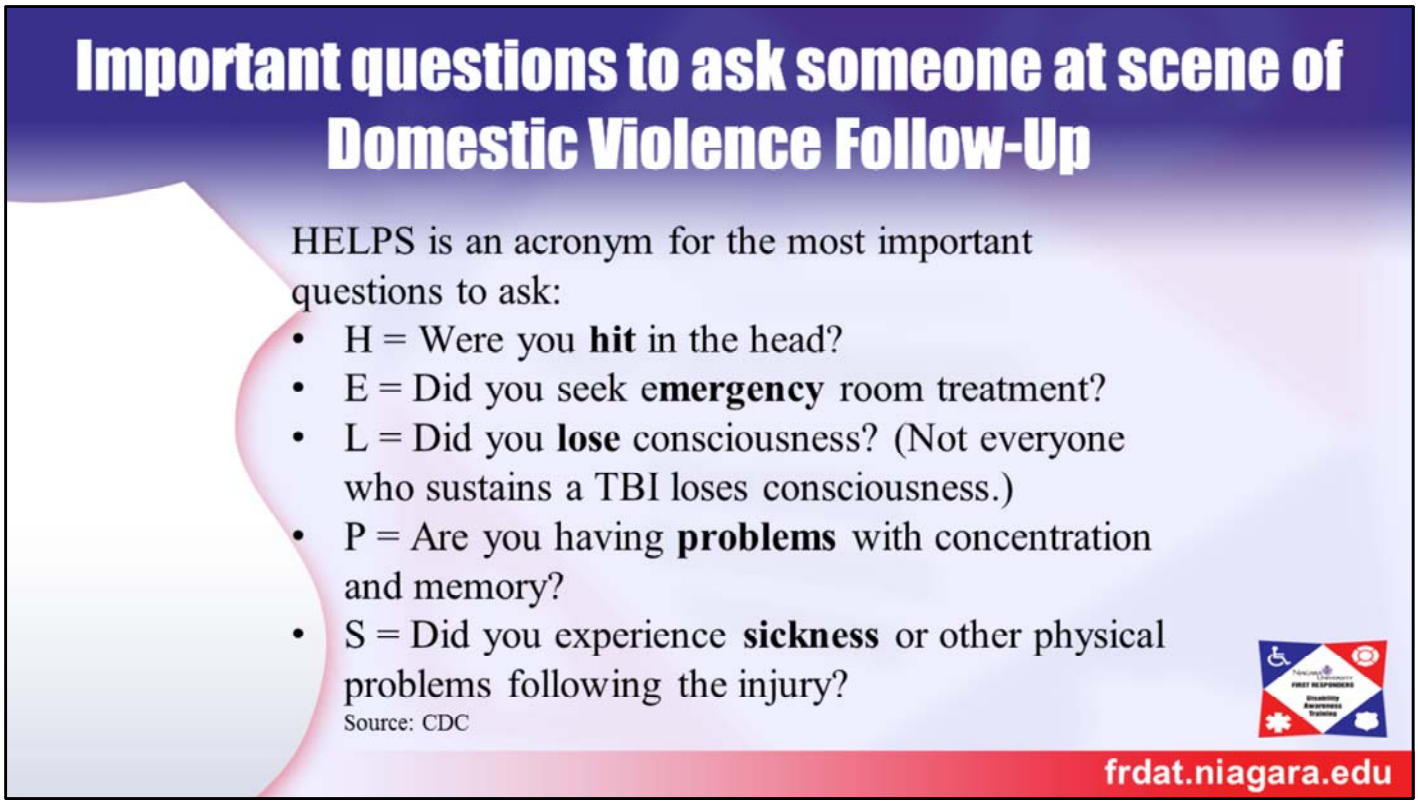
- The previous few slides show that there are many ways the brain will (negatively) respond to an injury.
- Again, the majority of TBIs are mild in severity, like concussions.



CLICK AND READ SLIDE

- One doctor surveys patients who were victims of domestic violence, noting that 81% lost count as to the hits to the head they received.
- "One single athletic concussion is hard enough to treat, but these patients are beyond that," she says. "Unlike athletes, they do not have the luxury, if you will, of recovering after an injury before they are injured again."
- While men are twice as likely to incur a TBI during their lifetime relative to women, these gender differences are significantly minimized or disappear completely in the justice-involved population.
- Some research even suggests that the rate of TBI is 5 to 7 percentage points higher among incarcerated women compared with incarcerated men

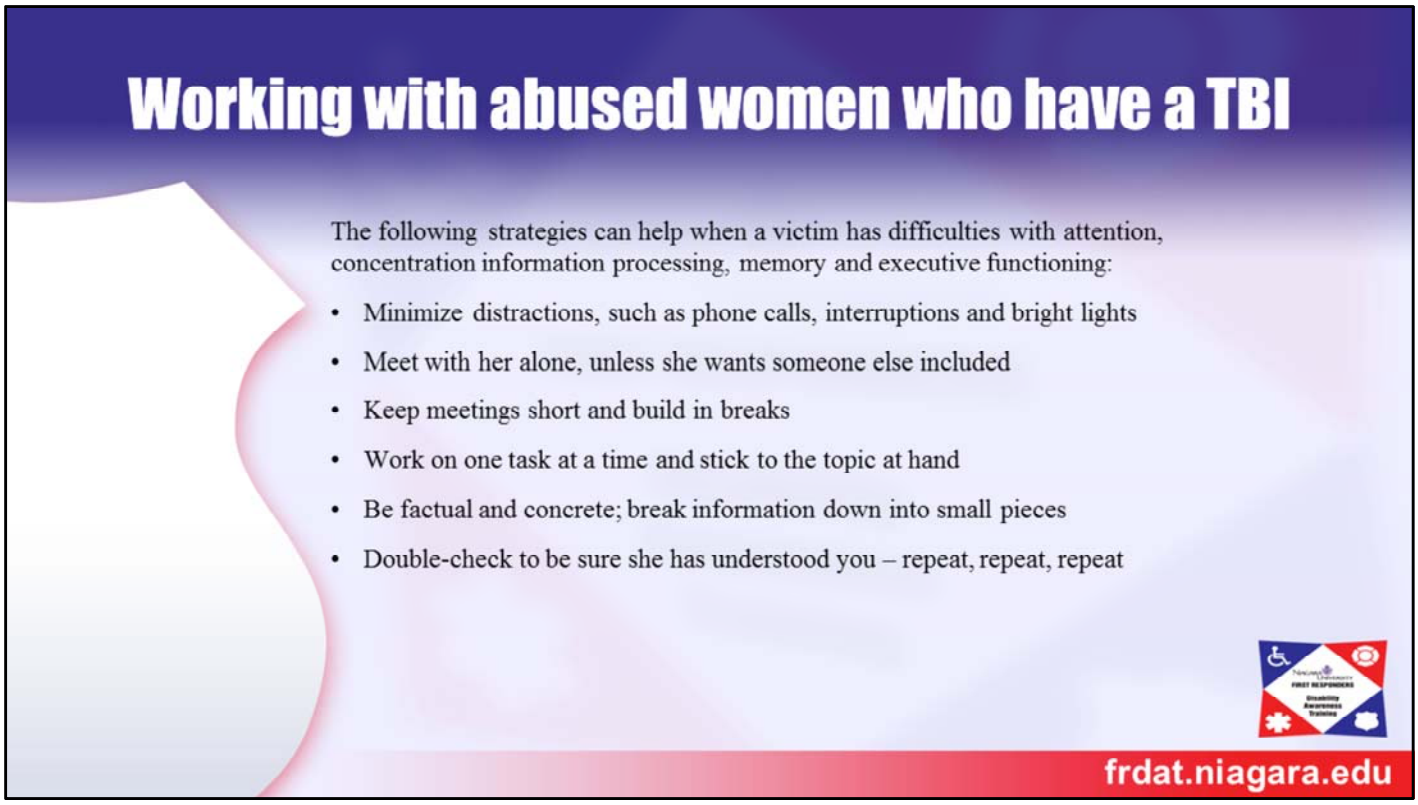
- Prison wardens and health care workers estimate that 75% to 90% of incarcerated women have experienced *intimate partner violence* (IPV).
- In contrast, a national survey revealed that 23% of women in the general U.S. population report a lifetime history of IPV.
- One study documents a lifetime history of violence-related TBI prevalence rate of 66.7% in a sample of justice-involved women. In addition, 38% of the TBIs sustained by women in the sample were violence-related



http://www.opdv.ny.gov/professionals/tbi/dvandtbi_infoguide.html

CLICK AND READ 5 BULLETS

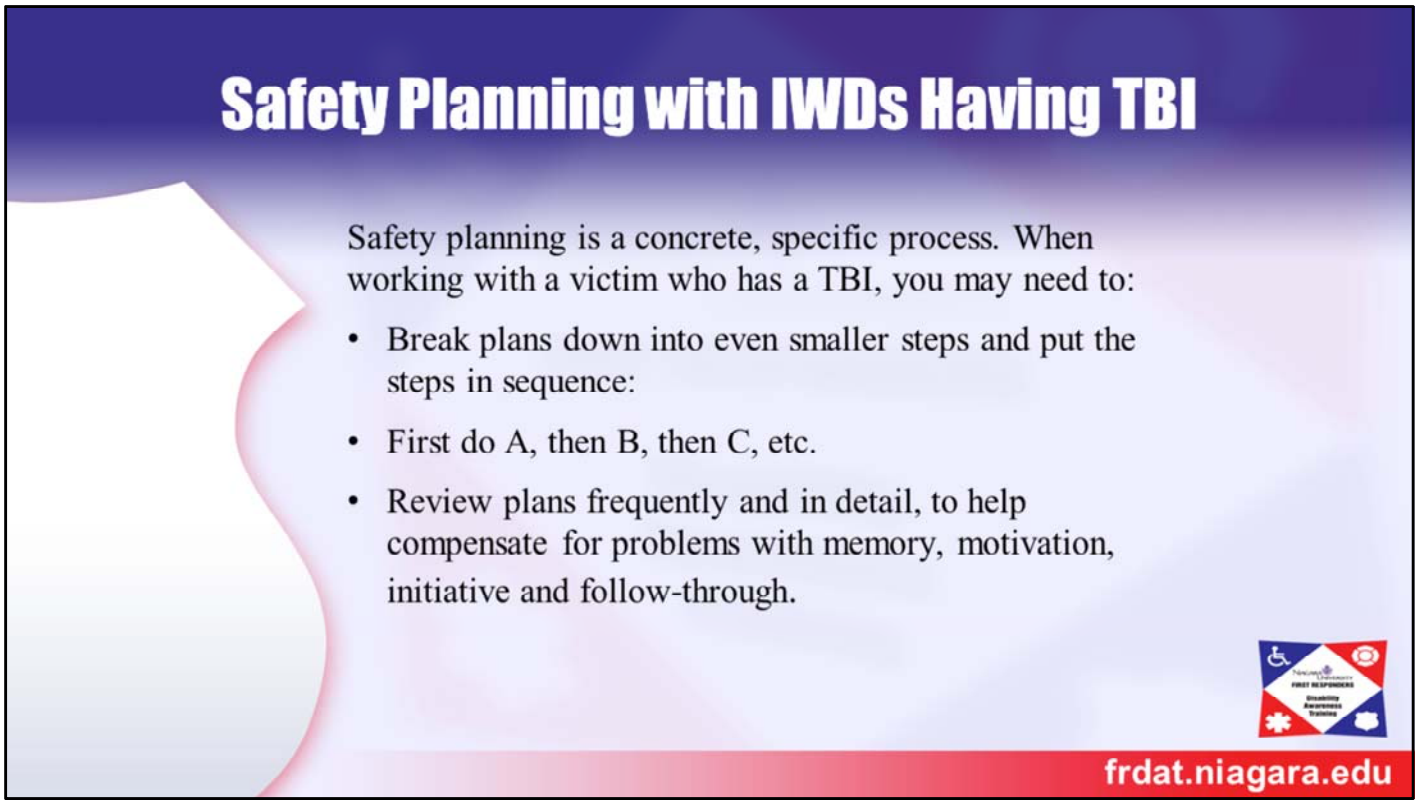
- Do your best to ask these questions in a calm, reassuring manner.
- An abuse survivor will often feel they are responsible for the abuse; questions may come across as aggressive or blaming, even if the intent is to make sure she doesn't have lingering injuries



CLICK AND READ 6 BULLETS

- If safety allows, write important information down in a journal or calendar, such as court dates, contact numbers, directions, order of protection information, to-do lists, etc.
- Develop checklists
- Help prioritize goals and break them into small, tangible steps
- Break tasks down into sequential steps; write out steps to problem-solving tasks
- Help fill out forms and make important phone calls

- Allow extra time to complete tasks (e.g., to fill out a form)
- Point out possible consequences of decisions, short- and long-term
- Provide respectful feedback on problem areas that affect safety, if she thinks she is functioning better than she is.



CLICK AND READ SLIDE

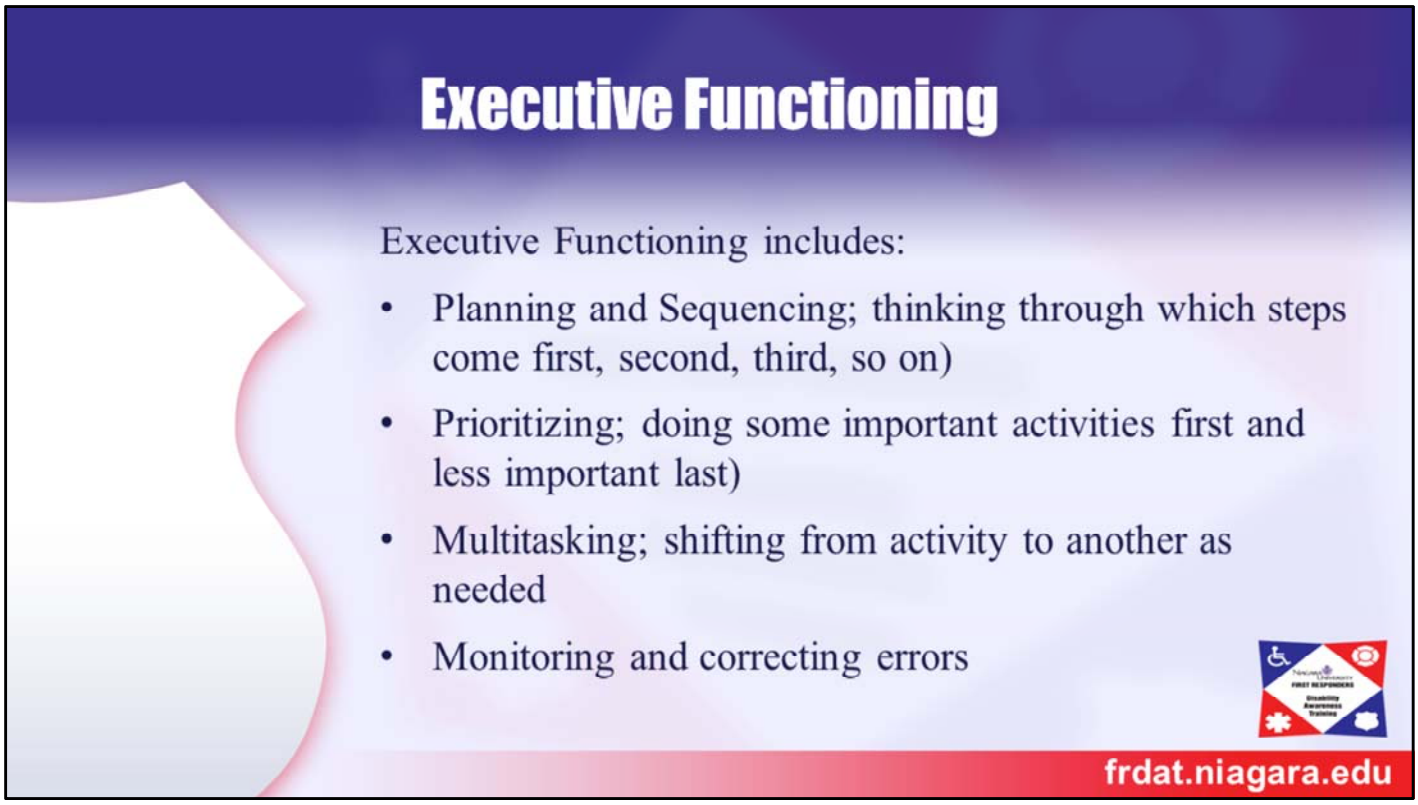
- Find out what she needs in order to manage her life. Incorporate benefits, rehabilitation and support services, assistive devices (voice recorders, timers, PDAs, post-its, etc.) service animals, and her ability to drive, work and live on her own into safety planning.

- Be realistic about how much – or how little – she may be able to do in a given day. Depression and fatigue are common for people with TBIs

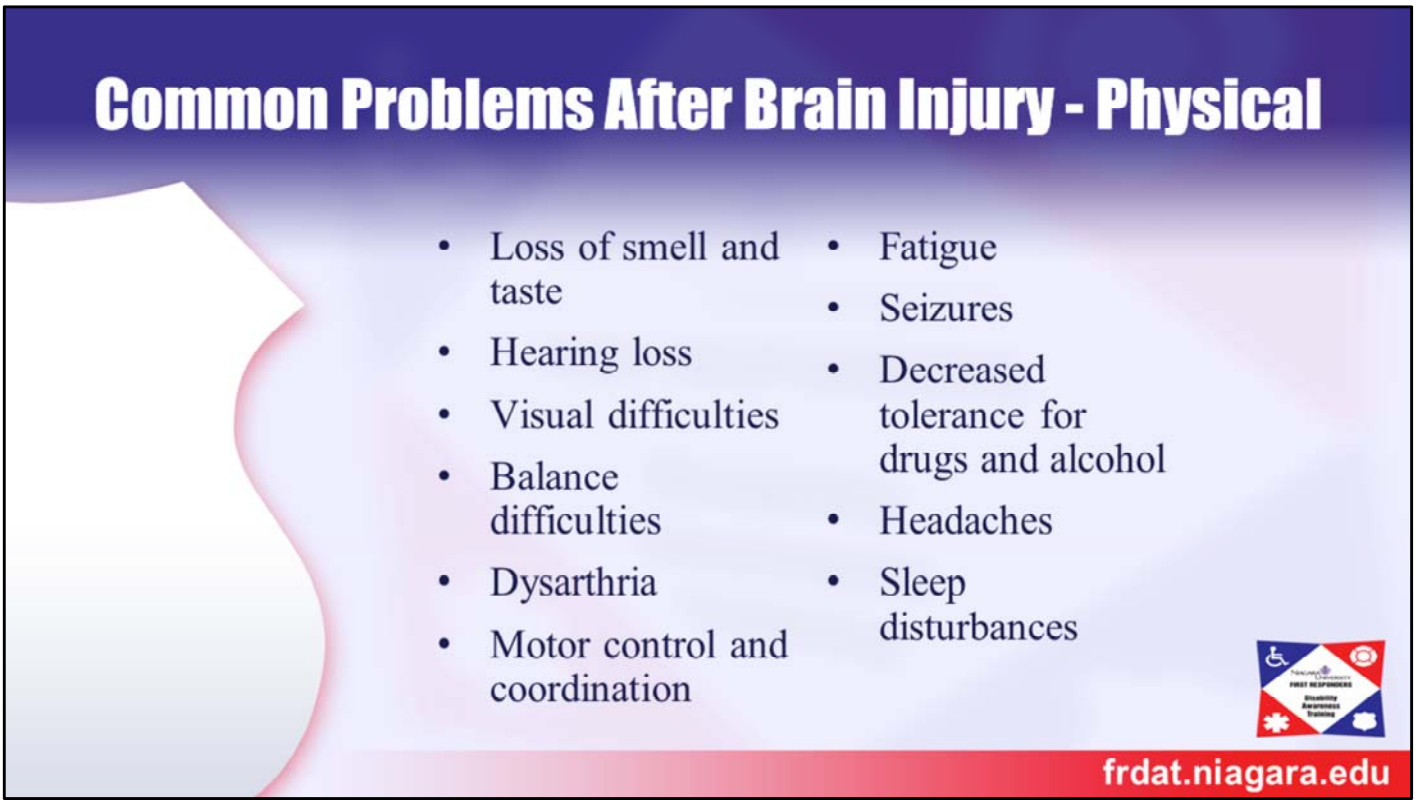
- Provide extra support and coaching when she has to deal with the justice system or Family Court. Role-play upcoming stressful situations, such as going to court.

CLICK AND READ 5 BULLETS

- One or all five areas can be affected.
- Remember, the brain has been affected, therefore these areas could now be compromised due to the injury.



- Affect the frontal and temporal lobes of the brain
- Frontal lobes direct executive functioning and manage emotional responses

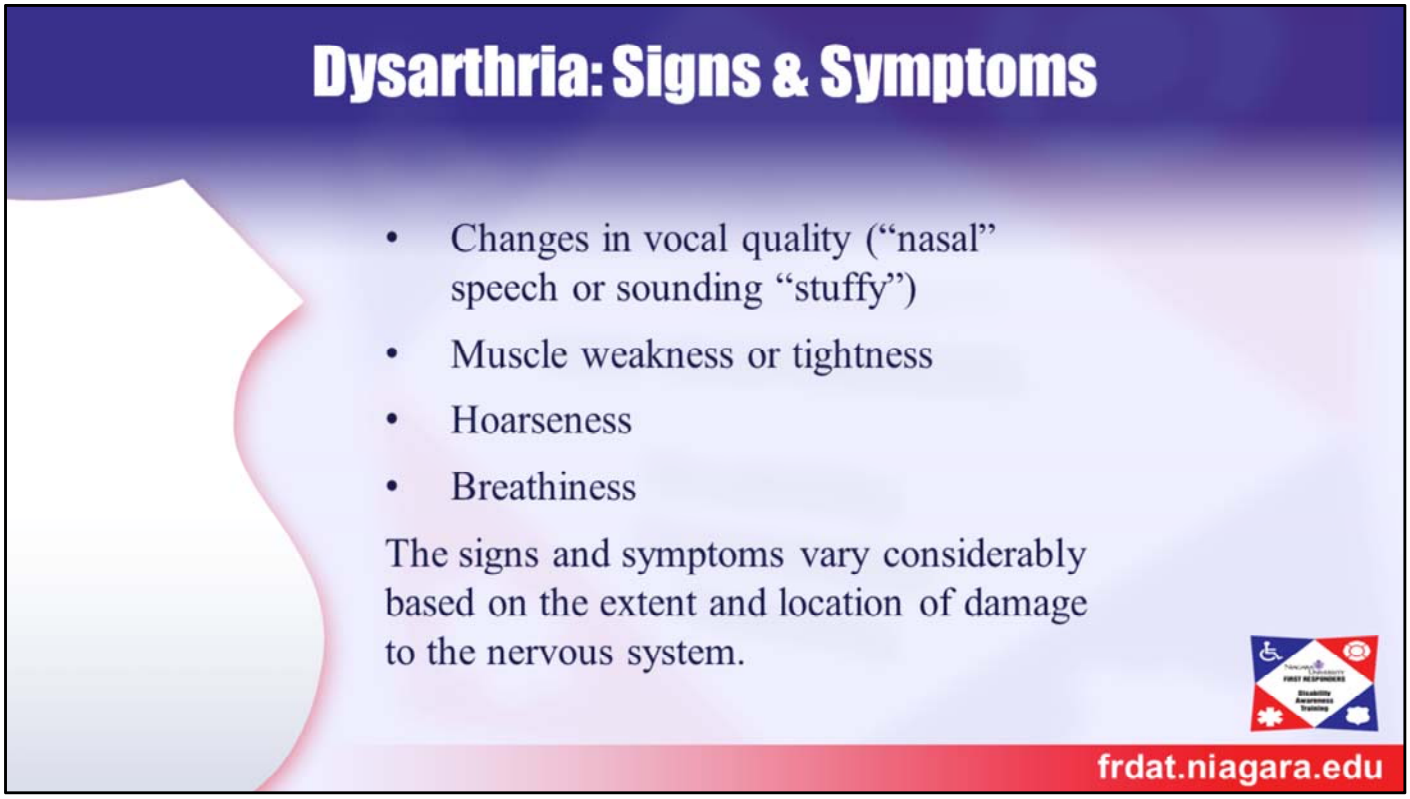


CLICK AND READ 11 BULLETS

- A breakdown of the **physical** problems one might have from a brain injury.
- Dysarthria (DIS-AR-THREE-AH) is a motor/speech disorder in which the muscles of the mouth, face and respiratory system become weak or paralyzed. In essence, there is a disruption with the brain's ability to produce clear, uninterrupted speech
- This condition may present challenges for both the person with TBI and LE. Officers might think the IWD is drunk or under the influence of drugs.
- People with TBIs often find that they can no longer tolerate alcohol or recreational drugs the same as they did in the past. A much smaller amount of liquor or drug of choice will

have a significant effect on them

- LEOs may also suspect intoxication when someone has impairment in balance as well as motor control. Furthermore, someone who is experiencing impaired motor control may not be able to stop in time to avoid an accident when driving.
- Extreme fatigue can potentially lead to traffic accidents, as can seizures, or extreme headaches, such as migraines
- Other physical symptoms may include:
  - Dizziness
  - Ringing in ears (tinnitis)
  - Odd/bad taste in mouth
  - Nausea
  - Light/sound sensitivity



CLICK AND READ 5 BULLETS

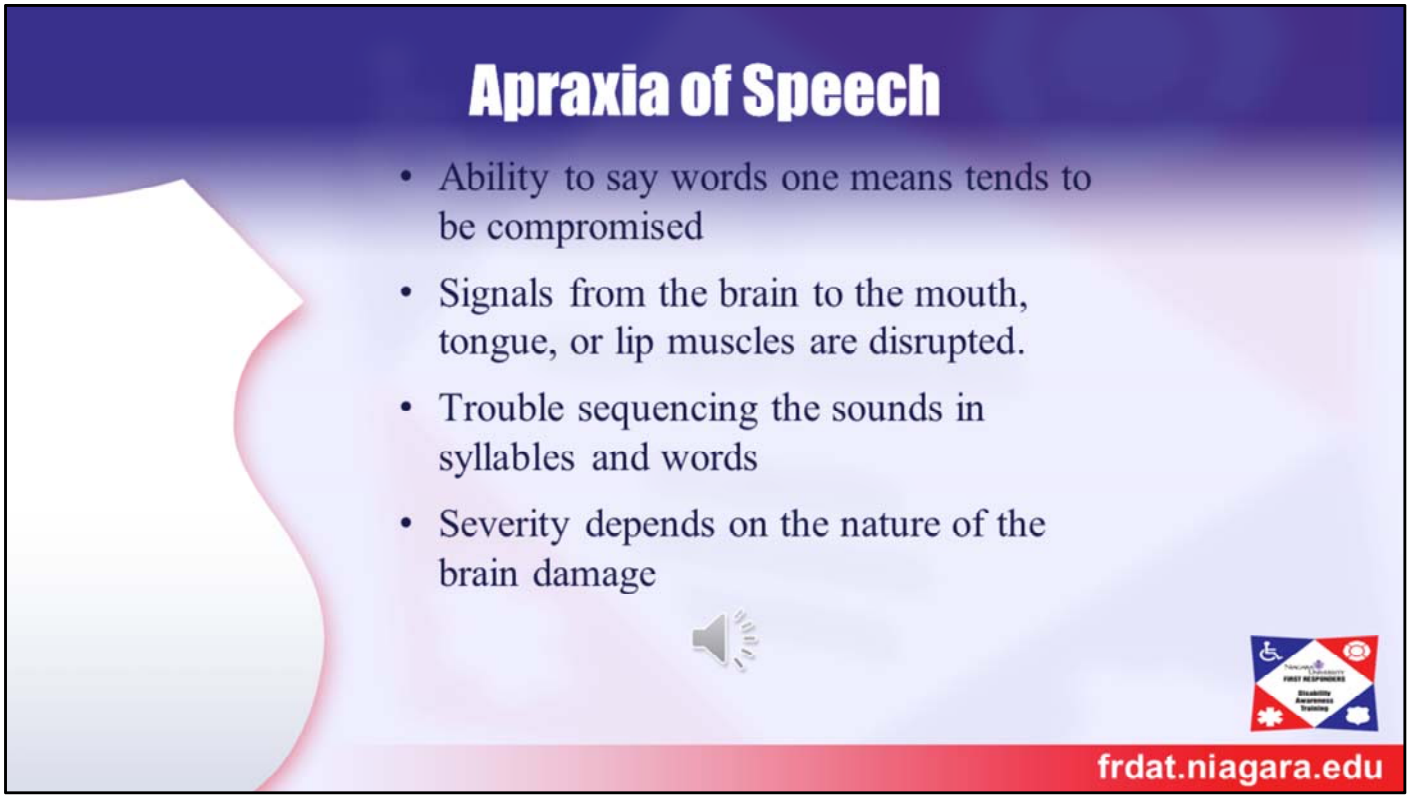
CLICK AND READ 3 BULLETS

We will see some examples of dysarthria in the upcoming video.

PLAY AUDIO of man with Dysarthria

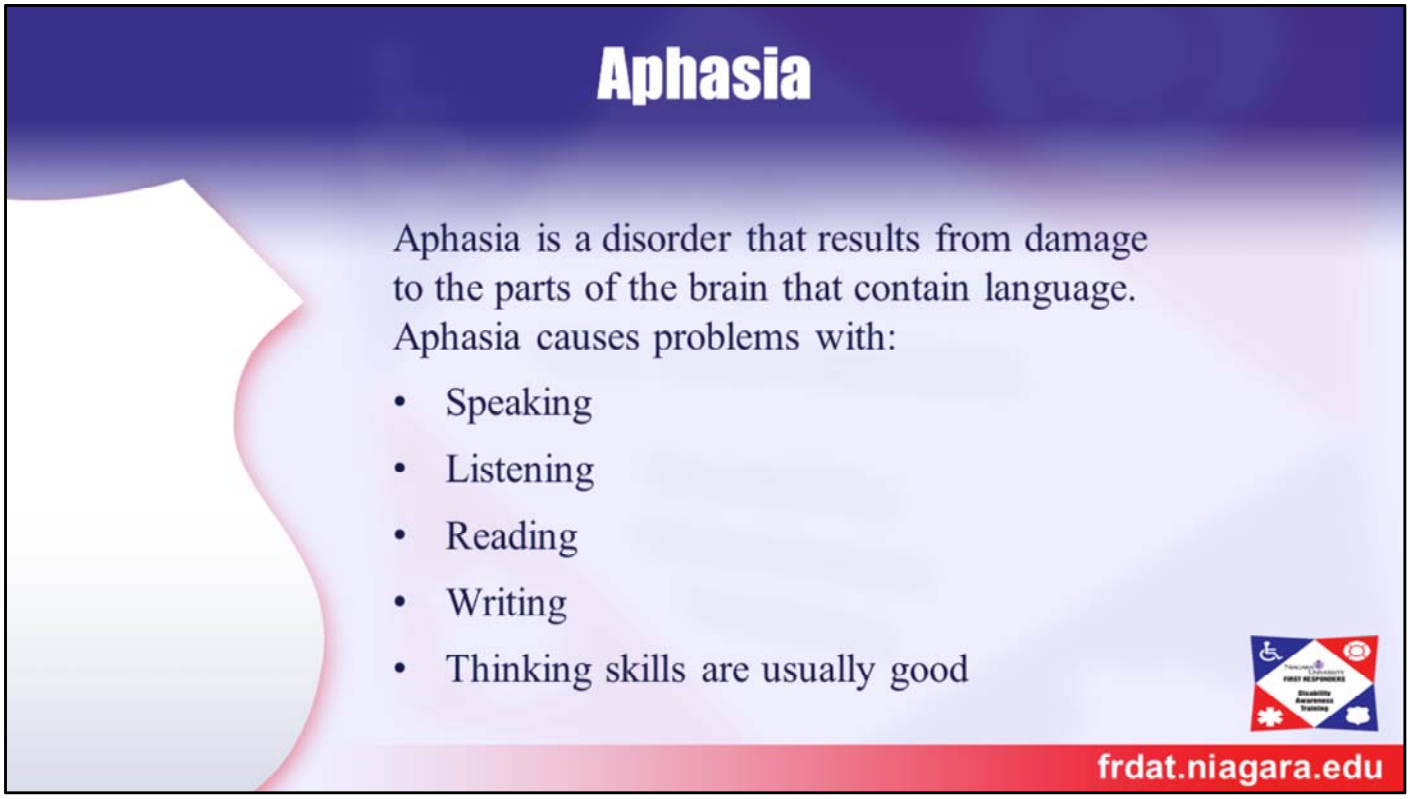
CLICK AND READ 6 BULLETS

- Apraxia of speech (AOS) is an acquired oral motor speech disorder affecting an individual's ability to translate conscious speech plans into motor plans, which results in limited and difficult speech ability
- In the case of inability to produce sound, augmentative communication will be used.



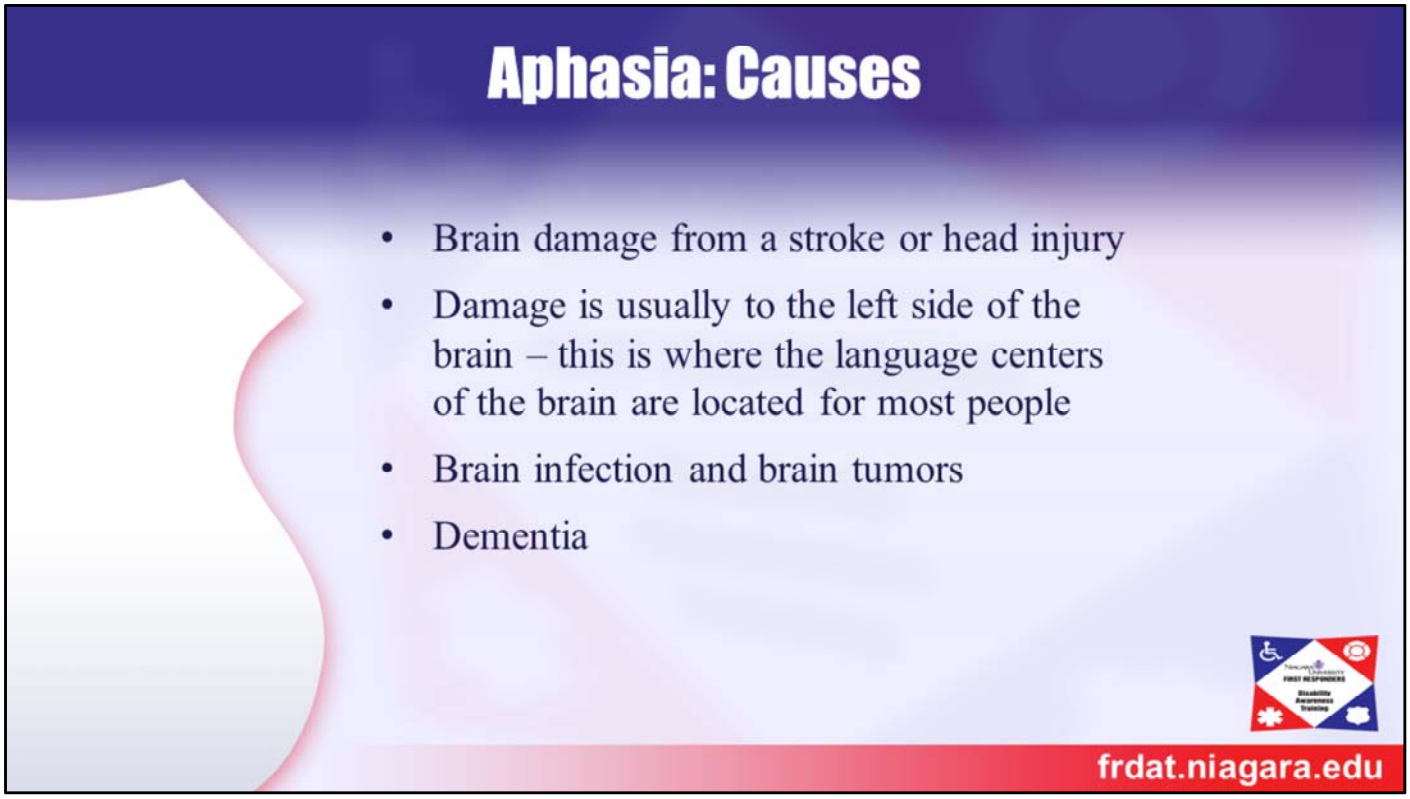
CLICK AND READ 4 BULLETS

- Similar to dysarthria in that there may be slowness in speaking.
- Someone who tries to tell you a fire started in the kitchen may instead say it is in the “bippmn” or even “chicken.”
- Trying to speak is extremely frustrating for people with apraxia of speech: someone who calls may choke up, start crying, or even swear in a garbled manner.
- Apraxia can co-occur with dysarthria and/or aphasia (a language disorder caused by brain trauma). It can occur in children as well as adults, as a congenital condition, rather than as typical brain damage.
- **PLAY AUDIO of woman with apraxia as an example**



CLICK AND READ 5 BULLETS

CLICK AND READ 5 BULLETS



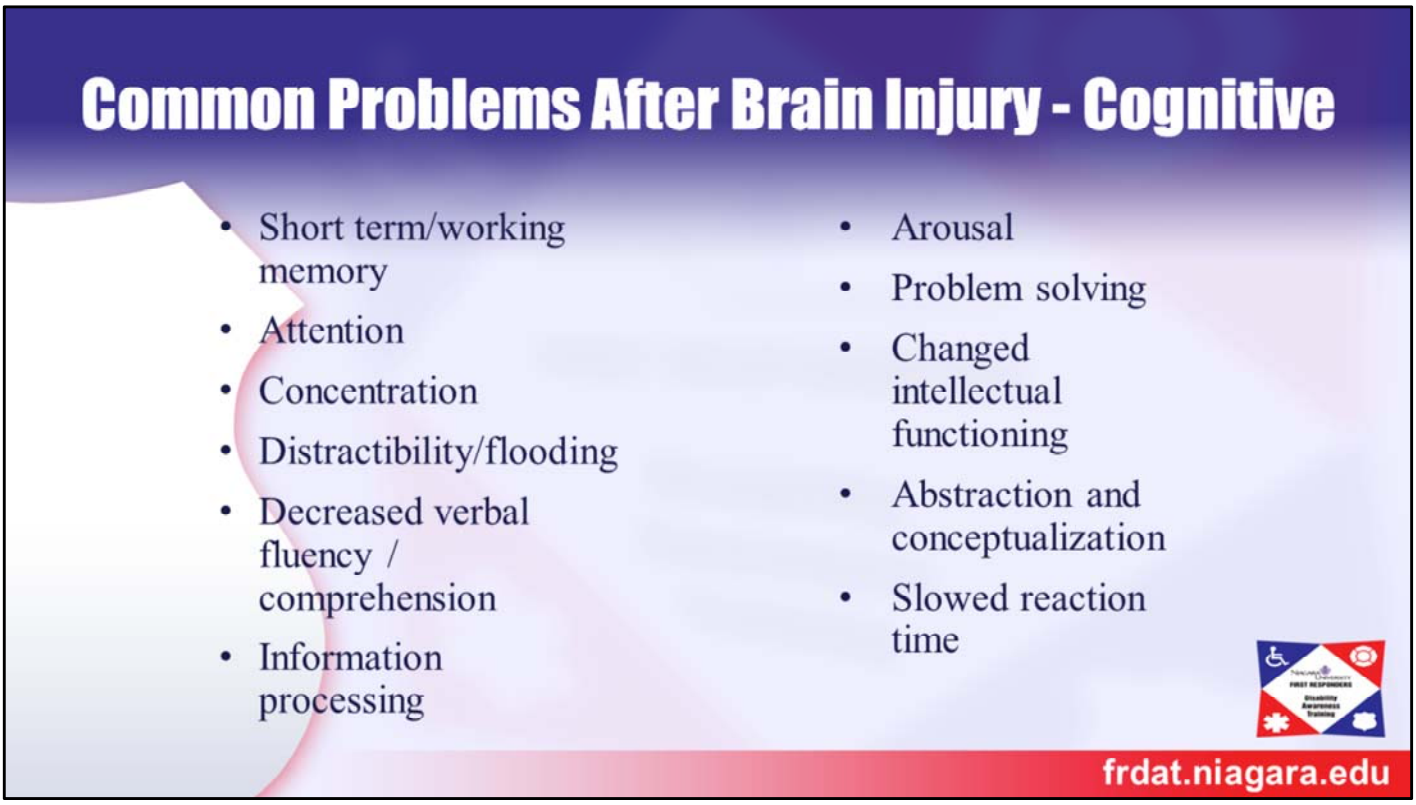
CLICK AND READ 4 BULLETS

Let participants know it is an example of someone with Aphasia

NOTE we have been introduced to two ways aphasia presents. Recall Mike Caputo video

PLAY VIDEO

- Results in poor comprehension
- Speech is effortless , but the meaning is impaired
- His answers are not in line with her questions



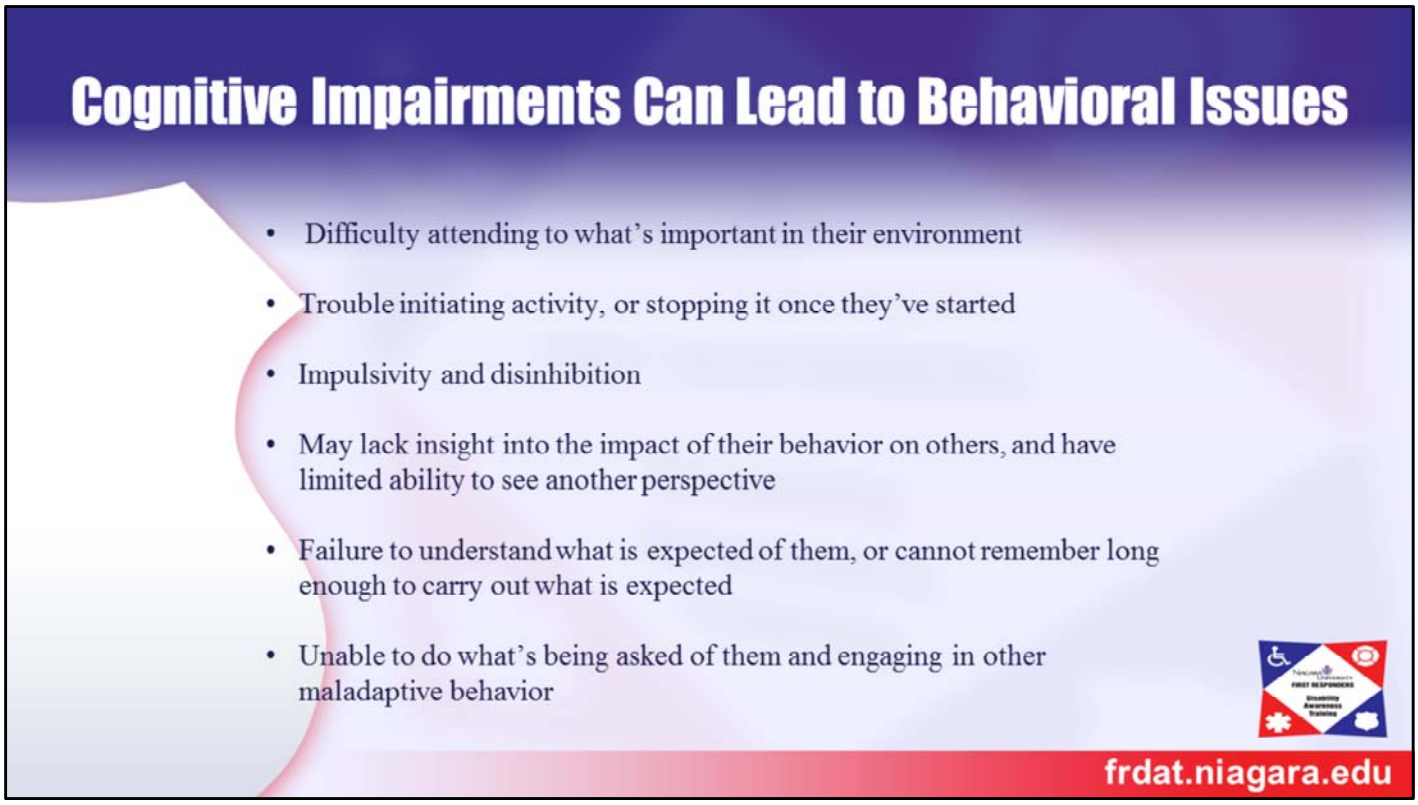
CLICK AND READ 11 BULLETS

- A breakdown of the **cognitive** problems one might have from a brain injury. Each is a decline in function. *Fight/flight/freeze when see LE; magnified by TBI & stop, think, observe, plan* *https://www.bing.com/videos/search?q=tbi+and+law+enforcement&&view=detail&mid=13D0F84FB8493A3BA80813D0F84FB8493A3BA808&&FORM=VRDGA*
- There can be such disruption in short-term memory that an individual may be told something (go have your car inspected and send in proof so you don't have to pay a fine) one minute and have no memory of the conversation at all right afterward.
- Memory from **before** injury is rarely affected; of course this depends on how severe the injury is and where in the brain the injury occurs. Furthermore, information presented just

before an injury may not have had time to enter memory, so this may be lost as well.

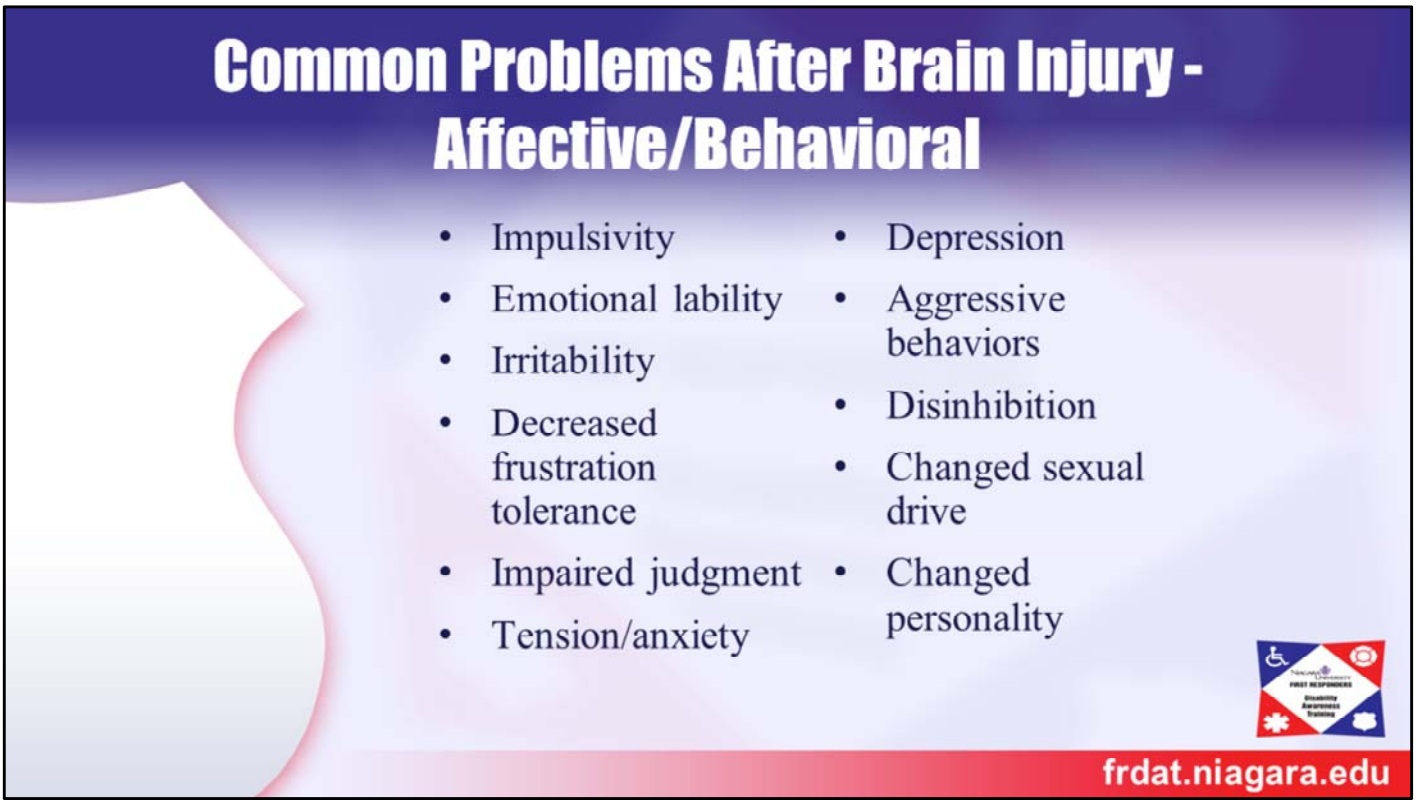
- Forming memories is more than one process:
  - Learning information (multiple ways, seeing, hearing, feeling…)
  - Encoding (how we make sense of information)
  - Consolidation (keeping information long-term)
  - Retrieval (what triggers memory)

- If someone can't focus/concentrate, or if too confused, memory can't form. A chronic problem post-injury is retrieval.
- Arousal does not necessarily refer to physical arousal; it is more likely a reference to agitated thinking/actions or a change in what peaks an individual's interest.



CLICK AND READ 6 BULLETS

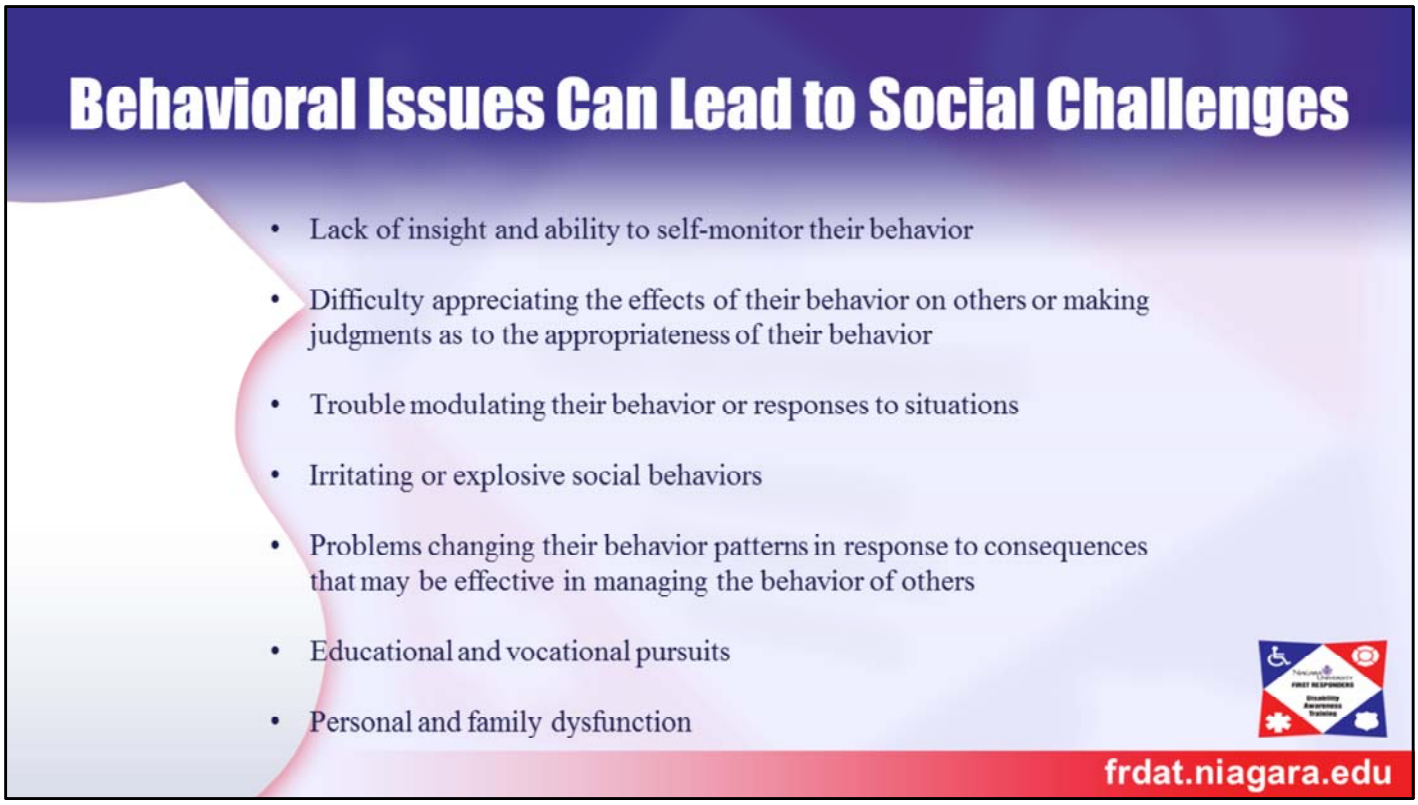
- These is all behavior that gets people into trouble. People with brain injury can have significant memory and processing problems, and this can lead to challenging behavior.
- Disinhibition, or a loss of barriers to inappropriate social behavior, can result in public disrobing, confrontational behavior, blurting out rude comments



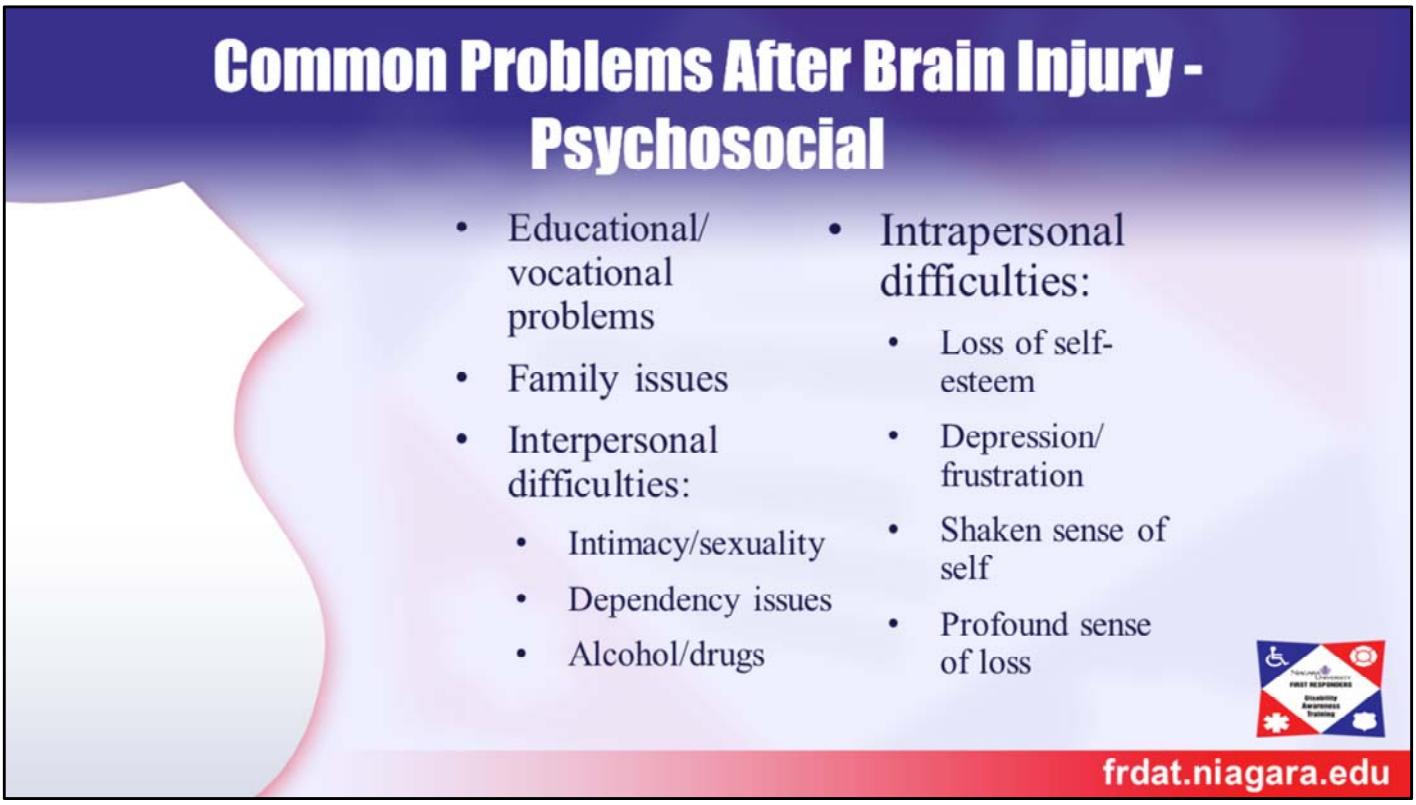
CLICK AND READ 11 BULLETS

- A breakdown of the **affective or behavioral** problems one might have from a brain injury.
- "Emotional lability" refers to an inability to control one's emotions. A person could be laughing one moment and crying or angry the next.
- Impulsivity, irritability, and impaired judgement combined could be a powder keg waiting to blow. Someone could strike out physically at another, accidently take something from a store, or ignore speed limits/traffic laws. Officers will be called upon to take action.
- Disinhibition is when there are no longer socially acceptable "stop signs" for the person. They are likely to say or do things that others would *never* do. An example of this might

be taking off all their clothes if they're hot, rather than perhaps just a sweater or (males) a shirt. S/he might make a sexually inappropriate remark or request, or become aggressive when unable to get their way. Any of this behavior will end in a call to police.



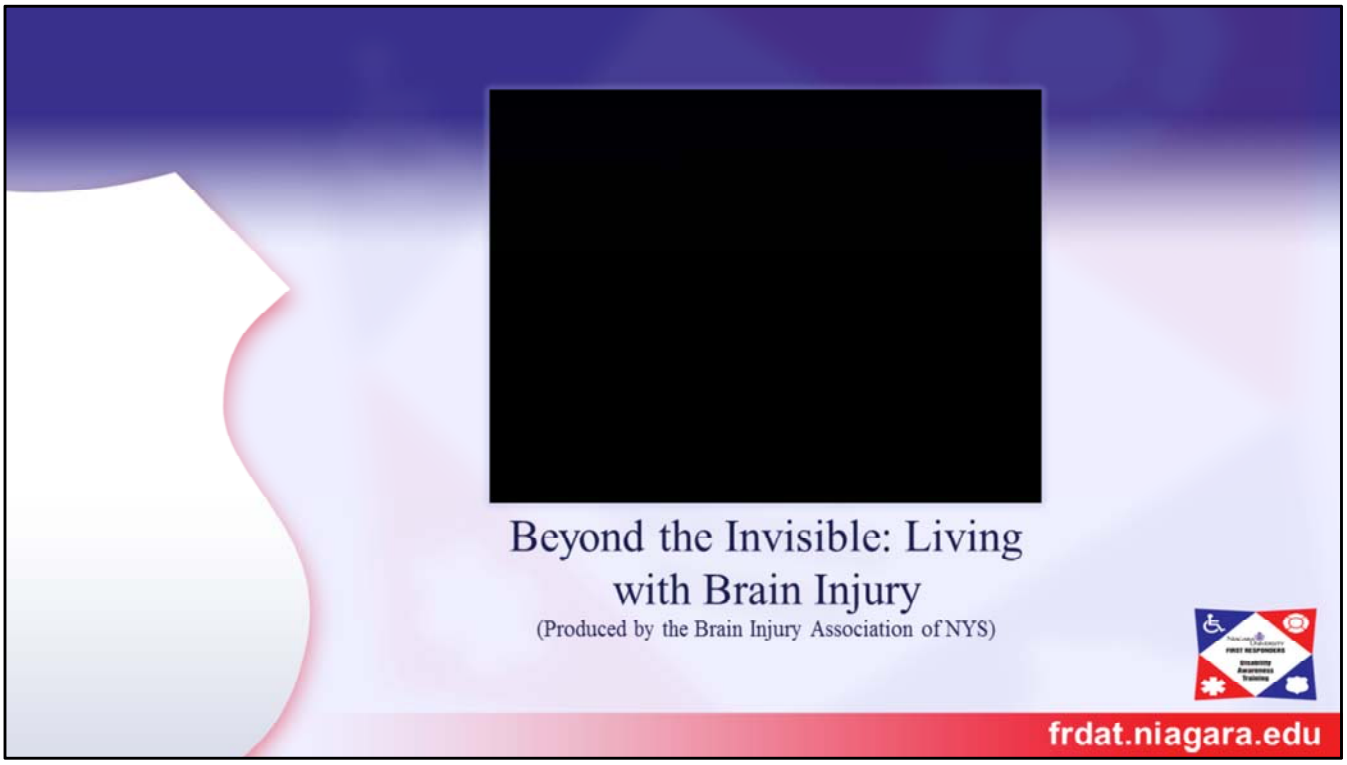
- And this list certainly points out how someone with a brain injury could come to your attention.



CLICK AND READ 11 BULLETS

- A breakdown of the **psychosocial** problems one might have from a brain injury.
- Someone with a brain injury is likely to be constantly comparing what they are able to do post-injury to what they were able to do prior to injury. These comparisons can lead to any or all of the intrapersonal difficulties listed above.
- The intrapersonal difficulties can lead to the abuse of alcohol or drugs in order to dull the emotional & psychological pain. This presents yet another likelihood officers will become involved, especially if the individual's tolerance for alcohol has diminished.
- Friends and even family members may distance themselves from the person with the TBI especially if the individual

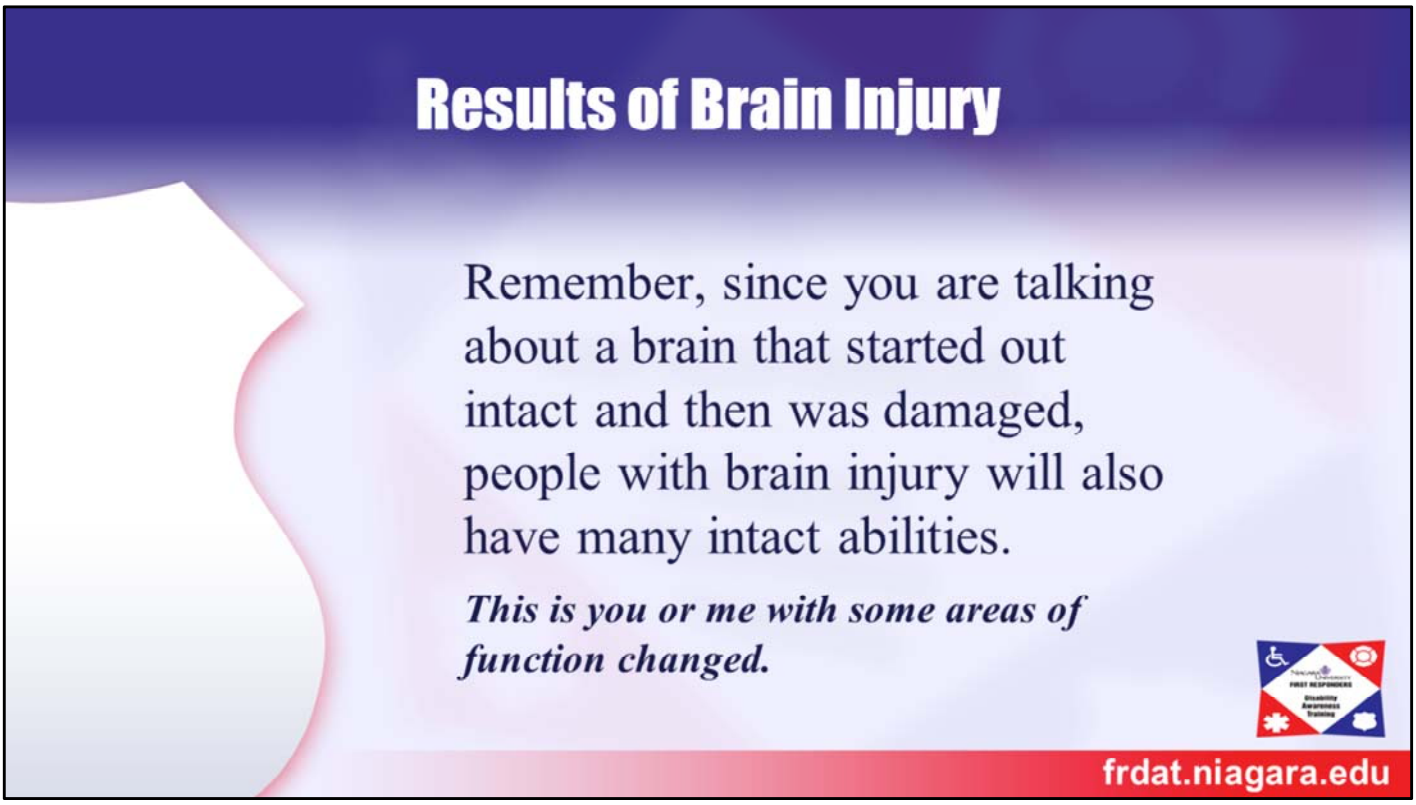
experiences rages. This can make the situation worse for the person with the TBI, leading to a downward spiral of self-esteem and depression.



PLAY VIDEO

- This video depicts TBI as it presents in three war veterans.
- Note the high incidence with war veterans.
- That said, this is TBI – whether a vet or someone injured in a car accident, sporting event, or anywhere else where the brain is damaged.
- Note the way it presents differently in each person and reflect back on the characteristics we just reviewed in this section. We've seen 44 potential results from a TBI – the combinations are endless relative to how it affects each person.
- It was noted how TBI is sometimes **misunderstood** as a psychiatric behavior or simply a personality change. Law enforcement will be challenged in identifying TBI, often mistaking it for substance abuse or a mental illness.

- The Center for Disease Control (CDC) states that 25% of individuals with brain injuries go undiagnosed. You may be encountering a person with this disability who does not know they have it. You may be the first person that starts them on their way to proper diagnosis and treatment.
- Dr. Flanagan explains that it is some external force that injures the brain. They present, or look, “perfectly okay” but there are problems with cognition, irritability, and/or mood swings.
- Michelle stated how “it’s almost like a child” – angry in the morning, happy in the afternoon. Note how her husband Brian seems oblivious and does not react to this comment.
- Brian and Michelle also explained how challenging it has been to try to remember his life. She also noted how he gets upset sometimes (slamming the laptop shut).
- Tracy tells us one way it affects him is in how he has a hard time understanding (processing) how words are coming in (“garbled”). He says how he gets lost a lot, asks people to repeat what they said, especially if they are talking fast.
- Eddie is the most involved as noted by his outbursts, as described by his mother, his self-injurious behavior, and his physical needs.
- As noted by Dr. Landes, some actions or responses may be misunderstood as psychiatric or behavior issues.

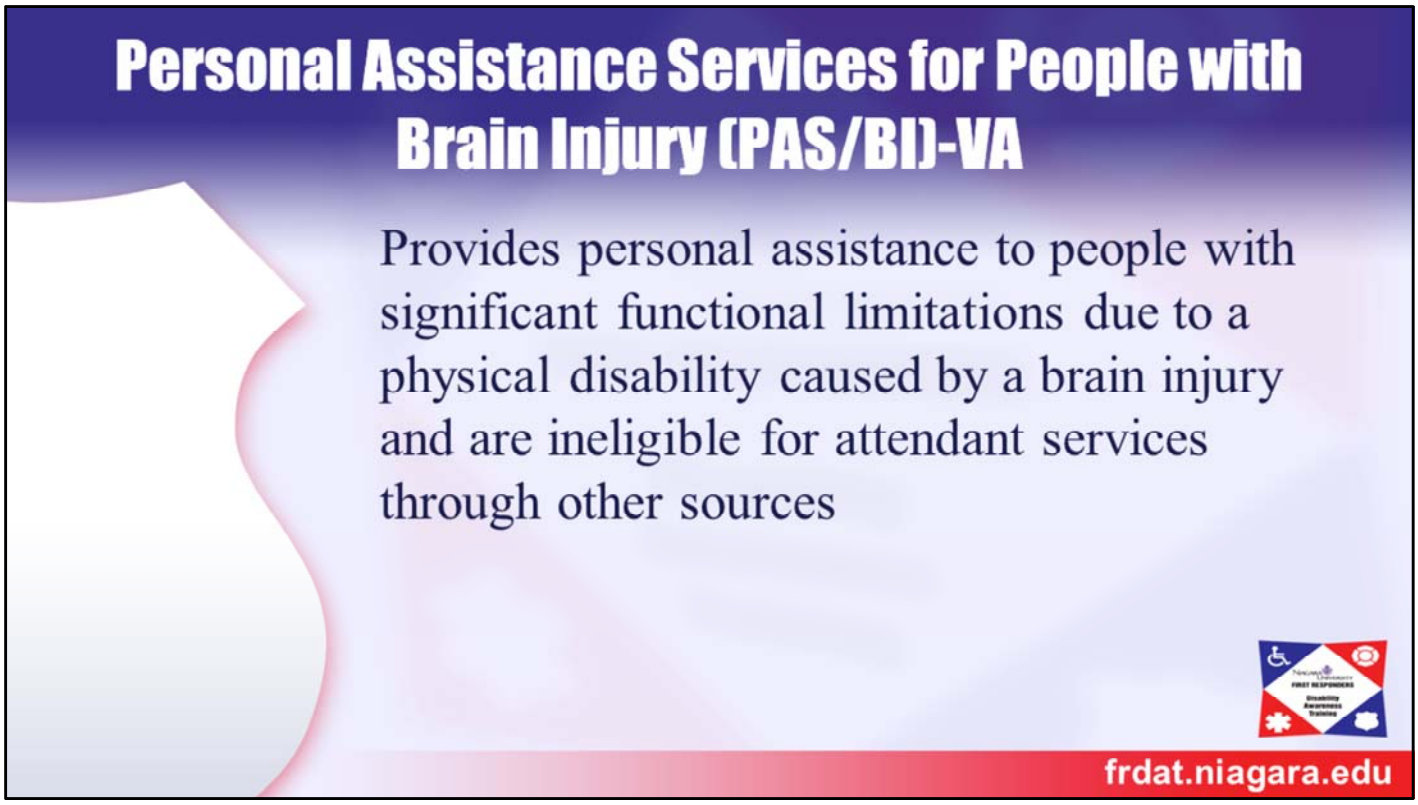


CLICK AND READ 2 POINTS

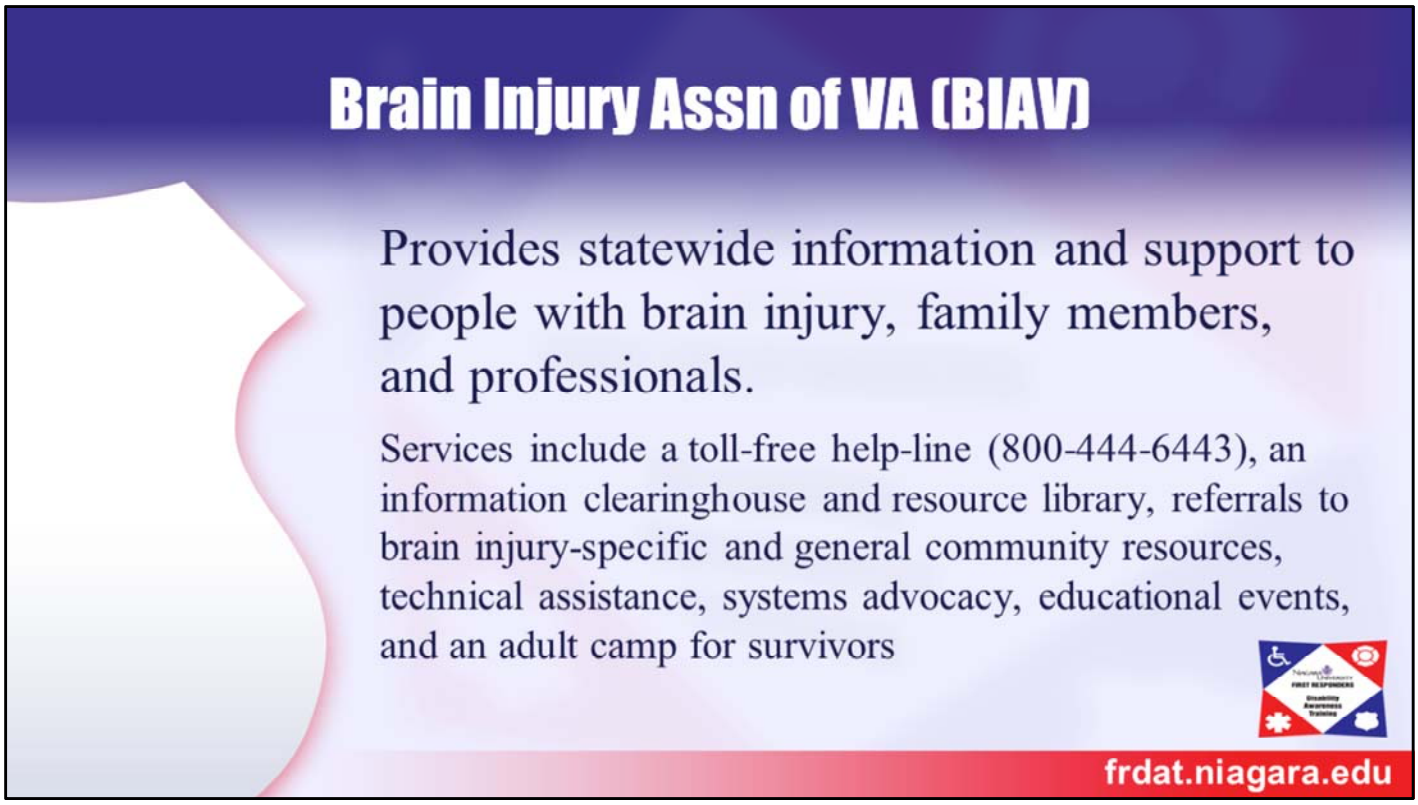
- Not all areas we just saw will be affected; in fact, many areas will remain intact.

The following pages will identify some of the services provided in VA. The handout will identify all services provided.

- The Brain Injury Services Coordination (BISC) Unit manages about $6 million in programs and services, primarily through federal/state grants, and state-funded contracts with organizations across the Commonwealth.
- BISC Unit provides information and consultation about acquired brain injury to DARS staff and external customers.
- BISCU staffs the Commonwealth Neurotrauma Initiative Trust Fund and the statewide Virginia Brain Injury Council.



- The consumer and a consumer-designated representative manage all aspects of employing a personal assistant.
- Services may include assistance getting in/out of bed, dressing, bathing, meal preparation, and housework.
- Priority is given to individuals at risk of institutional placement.
- These individuals will, for the most part, always have an assistant with them.
- The assistant can be questioned, if the need arises, about matters relating to the individual.
- The individual would also be more vulnerable to abuse



www.biav.net
info@biav.net

- The VA information sheet has all the regional services. Please indicate the regional services in your training area to the officers in attendance.

- Remember, this resources may be valuable to a fellow officer or first responder as there is high incidence in your profession

Peter makes many points:

- First and foremost, he states he lived with a TBI for 17 years and never knew he had one.
- Comorbid conditions, in this case PTSD
- Friends noticed a different “Peter”
- Clearly he is more then appreciative of the first responders who saved his life.
- In this case, police officers both responded and drove him to the hospital.